

A STUDY OF THE GENUS LATHYRUS

SB 413

S9 B5

Copy 1

The Genus Lathyrus

The Sweet Pea in Botany and Horticulture

Classification of Garden Varieties of the Sweet Pea

Winter Flowering Sweet Peas

A THESIS

PRESENTED TO THE FACULTY OF THE GRADUATE SCHOOL

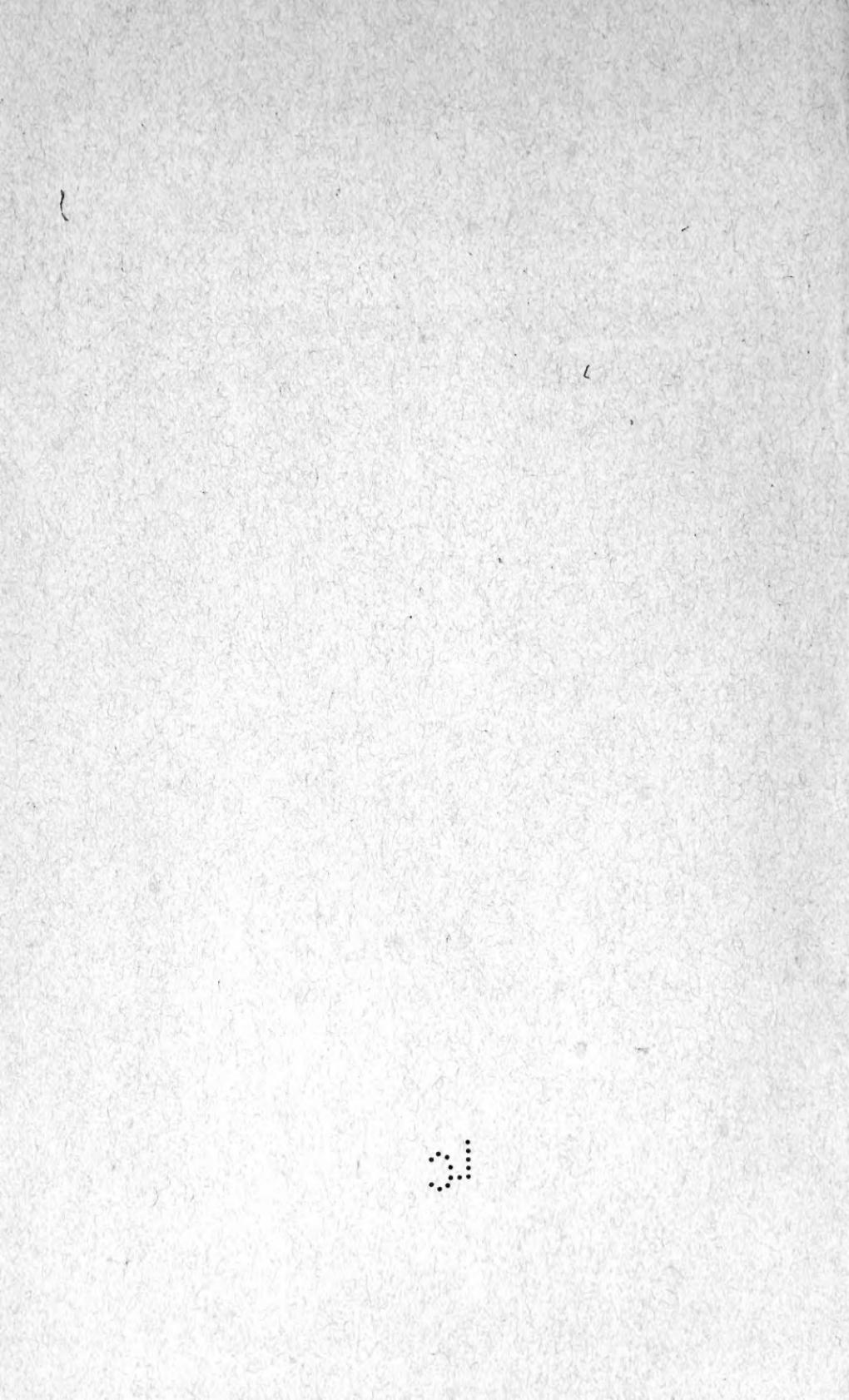
OF CORNELL UNIVERSITY FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

BY

ALVIN CASEY BEAL, B.S., M.S.A.

[Published as Bulletins 319, 320 and 342 of the Agricultural Experiment Station
of the College of Agriculture of Cornell University.]



A STUDY OF THE GENUS LATHYRUS

The Genus Lathyrus

The Sweet Pea in Botany and Horticulture

Classification of Garden Varieties of the Sweet Pea

Winter Flowering Sweet Peas

A THESIS

PRESENTED TO THE FACULTY OF THE GRADUATE SCHOOL
OF CORNELL UNIVERSITY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

BY

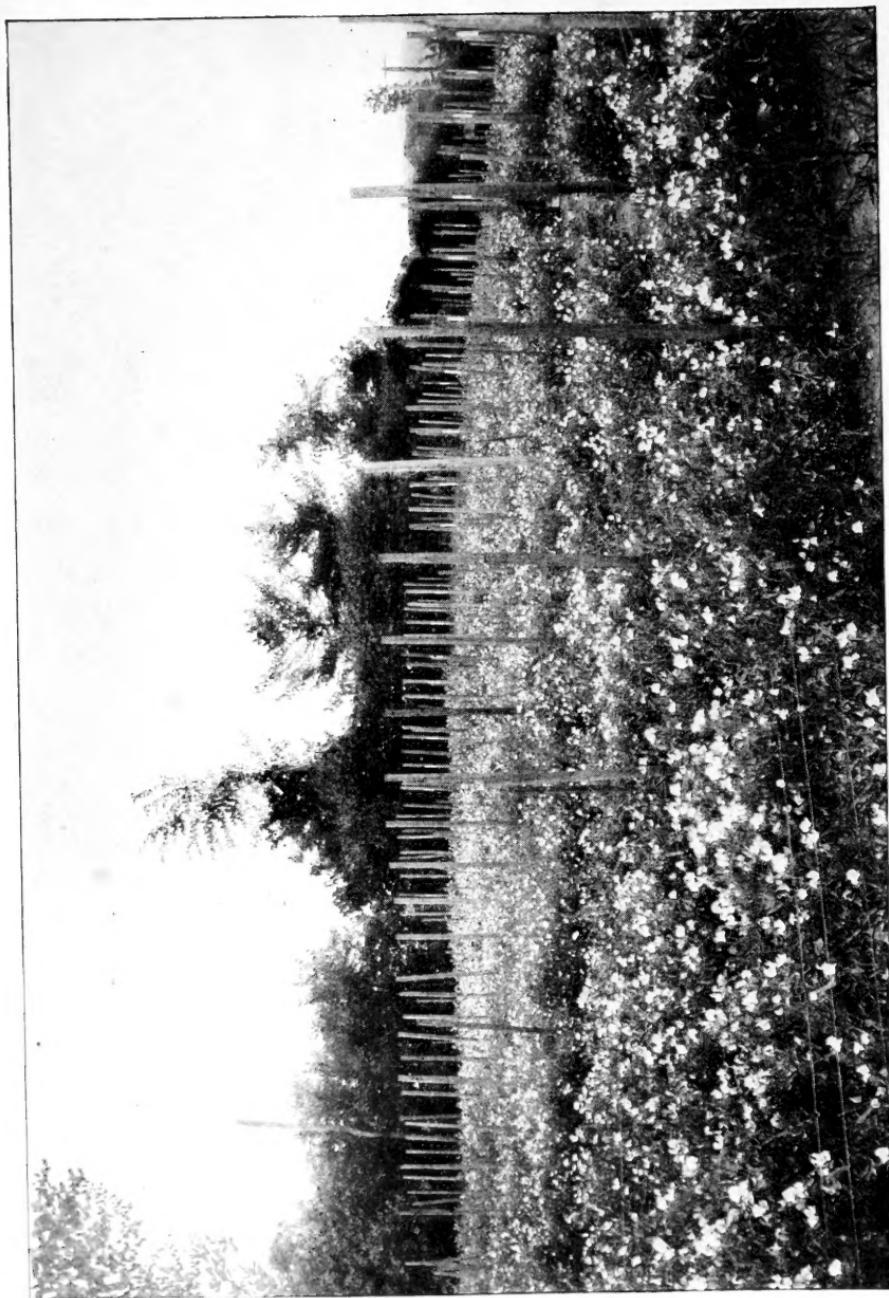
ALVIN CASEY BEAL, B.S., M.S.A.



[Published as Bulletins 319, 320 and 342 of the Agricultural Experiment Station
of the College of Agriculture of Cornell University.]

SB 413
S9 B5

Cornell University Library



Waved varieties of sweet peas, August 23, 1910. A good display of bloom

PREFACE

This study was begun in the autumn of 1909. It has been carried on continuously under glass during two winters, and outdoors in the summer of 1910. A collection of the obtainable species of *Lathyrus*, as well as a very extensive collection of the varieties of sweet peas, was grown at Ithaca. In addition to the above the writer was enabled to study the exhibits of outdoor-grown sweet peas at the annual exhibition of the National Sweet Pea Society at New York in July, 1910, and of the winter-flowering varieties at Boston in March, 1911.

The investigation was begun with a view of studying the various species of *Lathyrus* for the purpose of monographing them, and particularly of determining their value as ornamental plants. The studies on sweet peas included the evolution of the flower, as well as the preparation of careful descriptions and the detection and elimination of synonyms among present-day varieties. The descriptions of the garden varieties will appear in a later publication; those of winter-flowering varieties are included in Bulletin 319 of this station.

The author wishes to extend his thanks and grateful acknowledgments to Professor John Craig, who has given great encouragement, kindly advice, and all possible facilities for carrying on the investigation; to the National Sweet Pea Society for their cooperation in the variety tests; to the United States Department of Agriculture for seeds of species of *Lathyrus*; and to the seedsmen of the United States and Great Britain who contributed seeds for the trials. Among the latter, mention should be made of the assistance rendered by Messrs. C. C. Morse & Co. in contributing a collection of seventy-two varieties, representing various types and old or obsolete varieties, for the study on the evolution of the sweet pea.

CONTENTS

	Page
Part I. The genus <i>Lathyrus</i>	661
Botany of the genus	661
Artificial key to the species of <i>Lathyrus</i>	663
Descriptions of the species	667
History of the cultivated lathyrus	673
Descriptions of cultivated species	674
Part II. The sweet pea in botany and in horticulture	678
History of the sweet pea	678
Botanical history	678
British horticultural history	684
American horticultural history	691
Evolution	693
Pollination	695
Dwarf sweet peas	697
Varieties of cupid sweet peas	698
Unpopularity of the type	699
Garden culture of the sweet pea	700
The soil	700
The seed	701
Planting	702
Supports	706
Cultivation	709
Summary	710
Insects and diseases	710
Insects	710
Diseases	711
Exhibiting sweet peas	711

SWEET PEA STUDIES—III

CULTURE OF THE SWEET PEA

ALVIN C. BEAL

PART I. THE GENUS LATHYRUS

BOTANY OF THE GENUS

The genus *Lathyrus* (a name used by Theophrastus for some leguminous plant) belongs to the important family Leguminosae, which embraces three suborders, eighteen tribes, and one hundred and twenty-seven genera of plants cultivated in North America. The suborder Papilionae is distinguished from the suborder Mimosae in having irregular or zygomorphic flowers, and from the suborder Caesalpineae in having papilionaceous flowers—that is, the standard outside the other petals, and enclosing them in the bud.

Among the most important genera that contain ornamental plants are *Thermopsis*, *Lupinus*, *Laburnum*, *Genista*, *Cytisus*, *Cladrastis*, *Hedysarum*, *Lespedeza*, *Lotus*, *Dolichos*, *Pueraria*, *Erythrina*, *Apis*, *Centrosema*, *Wisteria*, *Robinia*, *Cianthus*, *Swainsona*, *Caragana*, and *Glycyrrhiza*. Then there are the genera of economic importance, *Arachis*, *Onobrychis*, *Desmodium*, *Vicia*, *Pisum*, *Lens*, *Phaseolus*, *Vigna*, *Mucuna*, *Glycine*, *Trifolium*, *Medicago*, *Melilotus*, and *Indigofera*.

The plants of the tribe *Vicia*, which includes the genera *Abrus*, *Lens*, *Vicia*, *Pisum*, and *Lathyrus*, are typically climbing herbs, with evenly pinnate leaves, which raise themselves by means of tendrils at the tips of the petioles. The varieties of *Phaseolus*, the other tribe of typically climbing herbaceous plants, have twining stems and three leaflets.

Abrus differs from the other genera of this tribe in having woody stems, and nine stamens instead of ten. *Lens* (lentil) has flowers with the wings adherent to the keel. *Vicia* (vetch), *Pisum* (pea), and *Lathyrus* are closely allied and somewhat difficult to distinguish. *Vicia* is usually known by the sheath of the stamens being oblique at the mouth, and the style being slender and bearded at the apex or only around the upper part; *Pisum* and *Lathyrus* have the stamen sheath even at the mouth, but are distinct from each other in that in *Pisum* the calyx lobes are leafy

and the style is flattened laterally and bearded down the inner edge, while in *Lathyrus* the style is flattened on the back and front and is bearded down one face.

The flowers of *Lathyrus* are solitary or racemose, on long, axillary peduncles. The calyx is oblique, campanulate, five-parted, the teeth nearly equal or the upper two shorter than the lower. The corolla consists of five parts. The upper, or odd, petal, known as the vexillum, or standard, is larger than the others and encloses them in the bud. There is a notch at the apex and ordinarily a short claw. The form is broadly obovate or roundish and the petal is usually turned backward or spreading. The colors are dark blue or purple, violet, rose, white, or yellow. The two lateral petals, or wings, are falcate, obovate, or oblong, oblique and exterior to the lower two, which are shorter, incurved, connivent, and more or less coherent along their anterior edge, forming the keel, or carina. The keel encloses the stamens and pistil.

The stamens are diadelphous (9 and 1), or monodelphous below. The style is curved, sometimes twisted, flattened, hairy along the inner side (next the free stamen); ovary sessile, or stalked with numerous ovules, becoming a one-celled pod. This is flat or terete, dehiscent, two-valved, continuous between seeds.

The seeds are globose or angular, with a hard, smooth testa. The radicle is curved inward. The cotyledons are accumbent.

The plants are herbaceous vines, rarely erect herbs, with pinnate, mostly tendril-bearing leaves. The old genus *Orobus*, which originally was created to include all the erect forms without tendrils, has since been included in the genus *Lathyrus* by Bentham and Hooker and by later botanists.

Species of *Lathyrus* are found in Europe, Asia, northern Africa, Sicily, and North and South America.

The genus is generally divided into two sections:

1. *Eulathyrus* (from *eu*, well, and *lathyrus*; genuine species). Vexillum toothless at the base. Leaves opposite or wanting. Petioles narrow-winged.
2. *Clymenum* (*clymenos*, clear). Vexillum furnished with a conical gibbosity on each side at the base. Lower petioles leafless; upper ones bearing two to six usually alternate leaflets. Petioles usually winged.

Horticulturally the species may be divided into perennial and annual species. The following classification of the species is based in part on the artificial key to the American species, published by Theodore G. White in the Bulletin of the Torrey Botanical Club, Vol. XXI, 1894:

Artificial key to the species of Lathyrus

I. Habit climbing, leaves tendril-bearing.

A. *Eulathyrus*.

B. Annuals.

C. Petioles leafless.

L. aphaca L.*L. Nissolia* L.

CC. Leaflets one pair.

D. Stems wingless.

L. pusillus Ell.*L. subulatus* Lam.*L. inconspicuus* L.*L. sphaericus* Retz.*L. micranthus* Gerard.*L. angulatus* L.*L. leptophyllus* Bieb.*L. setifolius* L.*L. hirtus* Lam.

DD. Stems winged.

L. sativus L.*L. cicera* L.*L. hirsutus* L.*L. annuus* L.*L. odoratus* L.*L. Tingitanus* L.

CCC. Leaflets 2-3 pairs.

L. clymenoides DC.*L. cirrhosus* DC.*L. turgidus* Lam.*L. purpureus* Presl.*L. ciliatus* Guss.

BB. Perennials.

C. Leaflets one pair.

D. Stipules narrow.

E. Stems wingless.

L. pratensis L.*L. tuberosus* L.*L. sessilifolius* Tenore.*L. roseus* Stev.*L. tomentosus* Lam.*L. sericeus* Lam.

I. Habit climbing, leaves tendril-bearing — (Continued).

EE. Stems winged.

- L. sylvestris* L.
- L. pubescens* Hook.
- L. grandiflorus* Sims.
- L. rotundifolius* Willd.
- L. undulatus* Boiss.

DD. Stipules broad.

E. Stems wingless.

- L. Magellanicus* Lam.
- L. nervosus* Lam.

EE. Stems winged.

- L. latifolius* L.

CC. Leaflets more than one pair.

D. Stems winged.

- L. palustris* L.
- L. Watsoni* White.
- L. Jepsoni* Greene.
- L. heterophyllus* L.

DD. Stems wingless.

E. Plant glabrous.

F. Stipules large.

G. Leaflets 2–5 (mostly 3) pairs.

- L. ochroleucus* Hook.
- L. myrtifolius* Muhl.
- L. pauciflorus* Fernald.
- L. parviflorus* S. Watson.
- L. pisiformis* L.
- L. Bolanderii* S. Watson.

GG. Leaflets 5–7 pairs.

- L. sulphureus* Brew.
- L. Alfeldii* White.
- L. polyphyllus* Nutt.
- L. maritimus* Bigel.
- L. vestitus* Nutt.

FF. Stipules narrow.

- L. laetiflorus* Greene.
- L. splendens* Kellogg.
- L. decaphyllus* Pursh.
- L. violaceus* Greene.
- L. coriaceus* White.

I. Habit climbing, leaves tendril-bearing—(Continued).

FF. Stipules narrow—(Continued).

L. venosus Muhl.

L. longipes White.

L. graminifolius White.

L. Macraei Hook.

EE. Plant densely silky villous all over.

L. litoralis.

AA. *Clymenum*.

L. diffusus.

L. clymenum L.

L. articulatus L.

II. Plant erect or nearly so, tendrils wanting or much reduced. (*Orobus*.)

A. Peduncles 2—several-flowered.

B. Flowers white or yellowish.

L. montanus Bernh.

L. Arizonicus Britton.

L. Cusickii S. Watson.

L. obovatus Torr.

L. rigidus White.

BB. Flowers purple.

C. Leaflets 5—7 pairs.

L. ornatus Nutt.

L. Nuttallii S. Watson.

L. niger Bernh.

L. Oregonensis White.

L. vernus Bernh.

CC. Leaflets 1—2 pairs.

L. bijugatus White.

AA. Peduncles 1-flowered.

L. Torreyi A. Gray.

Previous to White's monograph only two attempts had been made to enumerate the species of the genus. The first was by Alefeld (Bonplandia, June, 1860), who placed all the American species in the genus *Orobus*; the second attempt was by Watson (Amer. Jour. Sci., Feb., 1876), who enumerated thirteen species.*

* Mention should be made of the more recent monographs on the genus *Lathyrus*, namely:

Über einige *Orobus*-Arten und ihre geographische Verbreitung. Series I Lutei. Ein Beitrag zur Systematik der Vicen. Von Dr. Karl Fritsch. Sitzber. K. Akad. Wiss. (Vienna), Math. Naturw. Kl. CIV Band (1895).

Über einige *Lathyrus*-Arten aus der Section *Eulathyrus* und ihre geographische Verbreitung. August Ginzberger. Sitzber. K. Akad. Wiss. (Vienna), Math. Naturw. Kl. CV Band (1896), pp. 281-353, plates and maps.

Some one hundred and thirty other species, which are considered good by the Index Kewensis but not included in the writer's classification, are as follows:

Acutus, Alberjilla, albus, Algeridus, Allardii, alpestris, altaicus, amoenus, aphyllus, Armeneus, asphodeloides, astrophia, aurantius, bijugus, blepharicarpus, brachydon, brachypterus, Brownii, campestris, canescens, cassius, chloranthus, cicerella, cicerula, cinctus, coerulescens, colchicus, crassipes, cryophilus, cyaneus, Davidii, debilis, dicirrhos, dielsianus, Dinklagei, diversifolius, Drummondii, dumetorum, ecirrhosus, elegans, Emodi, Engelmanni, eptiolaris, erectus, Ewaldii, filiformis, fissus, fruitescens, Goldsteinae, Gorgoni, gracilis, gracillimus, Graphiosa, helodes, hierosolymitanus, hygrophillus, incurvus, intricatus, italicus, kilamandscharicus, laetifolius, laevigatus, lanceolatus, lancifolius, Layardii, Ledebounii, leucanthus, Libani, linearifolius, lusitanicus, luteus, lycius, macrorrhizus, magniflorus, malosanus, marmoratus, Messerschmidtii, Mexicanus, microphyllus, miniatus, mollis, Mulak, multiceps, multiflorus, mutabilis, nervatus, neurolobus, nitens, Numidicus, occidentalis, ochraceus, ovalifolius, pallescens, pannonicus, parisiensis, Parreiszii, pentaphyllus, pisaster, platystylis, polyanthos, pseudo-aphaca, pterocaulos, puberulus, purpureo-coeruleus, quadrimarginatus, Sanbergii, Schmiperii, setiger, Shaffneri, sinensis, spathulatus, spatulima, speciosus, spectabilis, stenobolus, stenophyllus, stipularis, strictus, subandinus, subrotundus, Szowitsii, Tanakee, tetrapterus, trachycarpus, trachyspermus, trichocalyx, Utahensis, variabilis, varius, venetus, villosus, vinealis, and Volckmanni.

The Encyclopedia of American Horticulture describes sixteen species in the American trade. These are: *odoratus, Tingitanus, grandiflorus, sylvestris, rotundifolius, undulatus, latifolius, Magellanicus, palustris, maritimus, venosus, splendens, montanus, polymorphus, niger, and vernus*.

The writer has been unable to find *maritimus, undulatus, palustris, splendens, montanus, rotundifolius, polymorphus, grandiflorus*, and *venosus* in the present-day lists.

Through the courtesy of Professor A. V. Piper, there has been received at this station the following reputed species from the United States Department of Agriculture: *L. cicera, L. sativus, L. sativus azureus, L. sativus coccineus, L. sylvestris, L. sp. (India), L. Tingitanus, L. ochrus, L. pratensis, L. nervosus, L. sp., and L. sp. (not named)*.

The following species and varieties were received from dealers in seeds and plants:

Lathyrus latifolius, Henry A. Dreer, Philadelphia

Lathyrus latifolius albus, Henry A. Dreer

Lathyrus latifolius White Pearl, Henry A. Dreer
Lathyrus latifolius Delicata, Peter Henderson, New York
Lathyrus latifolius roseus, A. T. Boddington, New York
Lathyrus latifolius Pink Beauty, A. T. Boddington
Lathyrus latifolius albus, A. T. Boddington
Lathyrus latifolius White, J. M. Thorburn & Co., New York
Lathyrus latifolius Pink Beauty, J. M. Thorburn & Co.
Lathyrus latifolius splendens, R. & J. Farquhar, Boston
Lathyrus latifolius Giant White, R. & J. Farquhar
Lathyrus latifolius Perennial Pea, Red, James Vick's Sons, Rochester
Lathyrus latifolius Perennial Pea, Rose, James Vick's Sons
Lathyrus latifolius Perennial Pea, White, James Vick's Sons
Lathyrus sylvestris, J. M. Thorburn & Co.
Lathyrus pubescens, A. T. Boddington
Lathyrus grandiflorus, Ellwanger & Barry, Rochester
Lathyrus Lord Anson's Blue, A. T. Boddington
Lathyrus Lord Anson's Blue, J. M. Thorburn & Co.
Lathyrus Lord Anson's White, J. M. Thorburn & Co.
Orobus niger, J. M. Thorburn & Co.
Orobus lathyroides, J. M. Thorburn & Co.
Orobus albus roseus, Henry A. Dreer
Orobus superbus, Henry A. Dreer
Orobus vernus, Henry A. Dreer
Orobus vernus, R. & J. Farquhar

Only a few of the above, mostly annual species, flowered the first year.

Descriptions of the species

LATHYRUS SATIVUS L.

Annual

Stems branching, smooth, winged, 2 feet high; leaflets linear-oblong; tendrils trifid; stipules semisagittate-ovate, ciliated, not so long as the petioles; peduncles 1-flowered, longer than the petioles ($1\frac{1}{2}$ –2 inches long), bracteolate and articulate at the apex; calyx lobes lanceolate, foliaceous, almost three times length of tube; legumes ovate, short, broad, irregularly reticulated, winged on the back; seeds trigonal, smooth, truncate. Native of Spain, France, and Italy. Flowers blue, sometimes white, $\frac{3}{4}$ –1 inch in diameter. *L. sativus*, *L. sativus azureus*, and *L. sativus coccineus* were found at this station to be a mixture of white and blue forms.



FIG. 178.—*Lathyrus sativus* L.

LATHYRUS CICERA L.

Stems smooth, 2 feet high, branching, winged; leaflets linear; tendrils branched; stipules semisagittate, narrow, much shorter than the petioles; peduncles 1-2-flowered, length of the leaves; bracteoles small; calyx segments lanceolate, nearly three times length of tube; legumes oblong, irregularly channeled on the back, not winged; seeds trigonal, truncate, smooth. Native of Spain. Flowers purple or red, variable.

LATHYRUS HIRSUTUS L.

Stems winged, 2 feet high; leaflets linear-lanceolate, 3-nerved; stipules semisagittate, linear, about equal the petiole in length; peduncles usually

2-flowered; calyx hairy, segments ovate-acuminate, length of tube; legumes oblong, hairy; seeds globular, warty. Native of southern Europe, in



FIG. 179.—*Lathyrus hirsutus L.*

grainfields. Flowers with a bright crimson standard, pale blue wings and white keel.

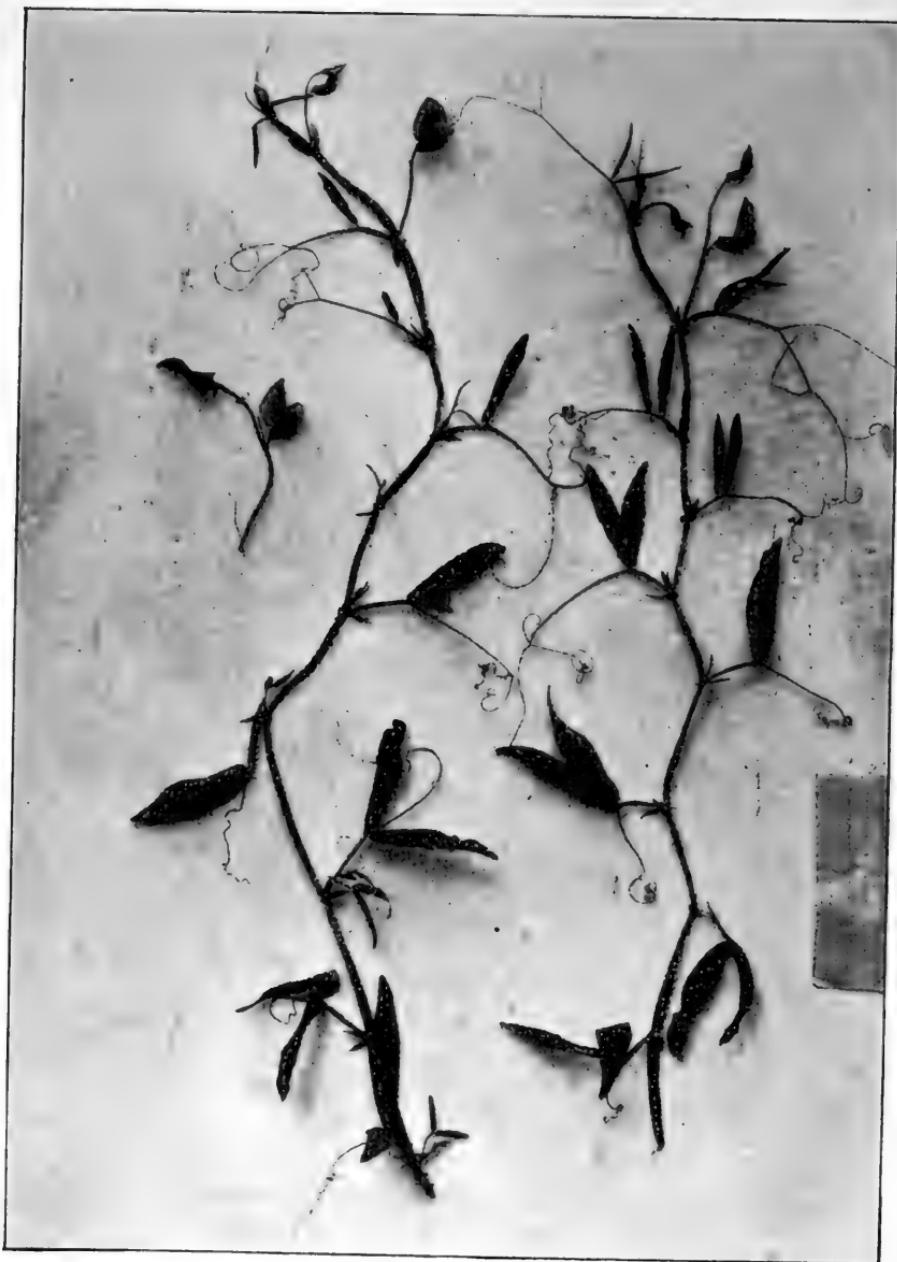


FIG. 180.—*Lathyrus Tingitanus L.* *Tangier scarlet pea*

LATHYRUS TINGITANUS L.

Stems spreading-winged, quite glabrous, 3 feet long; leaflets linear-lanceolate, obtuse, mucronate; stipules lanceolate, much shorter than



Lathyrus pumilus Hook.

Lathyrus latifolius L.

68

the petioles; peduncles 2-flowered, longer than the leaves; calyx teeth nearly equal; legumes linear, 4-5 inches long, much reticulated, compressed, sutures thick; seeds not angular. Native of the west Mediterranean region at Tangier. Flowers 1 inch long, dark red-purple: standard large, purple; wings and keel bright red.

LATHYRUS ODORATUS L.

Stems rough-hairy, winged oval or oblong, mucronate; stipules lanceolate, much shorter than the petioles; peduncle 2-4-flowered, much longer than the leaves; calyx teeth broad, longer than the tube; legumes compressed, linear, 1-3 inches, hairy; seeds round, sometimes angled, black, white, or mottled. Native of Sicily. Flowers large, showy, in shades of blue, red, yellow, and white. Standard large-expanded, hooded or wavy.

LATHYRUS OCHRUS DC.

Stems 4-angled, winged; petioles winged, lower ones leafless, upper ones with two leaflets; leaves glaucous; lower stipules wanting, upper ones ovate; peduncle 1-flowered; calyx teeth unequal, superior lobes shortest, length of tube; legumes with membranous wings, few-seeded; seeds globular. Native of southern Europe. Flowers pale yellow.

LATHYRUS SYLVESTRIS L.

Perennial

Stems straggling, 3-5 feet, stout, winged, glabrous, with creeping rootstocks; petioles winged, with one pair of linear-lanceolate leaflets; stipules narrow; peduncles 3-6-flowered, equaling the leaves; legumes compressed, reticulated, lanceolate, 2-3 inches long; seeds round, dotted. Native of Europe, in woods and hedges. Flower with one-half-inch-long standard: standard rose, with a green spot on the back; wings purple at the tips; keel greenish.

LATHYRUS PUBESCENS HOOK.

A soft, hairy, diffuse-branching herb; stems 3-5 feet high; stems, branches, and peduncles 4-angled, the angles forming stout ribs; petioles with one pair, rarely two pairs, of leaflets, sessile, 1-2½ inches long, oblong-lanceolate or elliptic-oblong, dark green, strongly ribbed beneath; stipules variable in size and form; peduncle longer than the leaves, many-flowered in lax or dense racemes; calyx tube broadly campanulate, upper teeth shorter; legumes linear, 2-2½ inches long, hairy, flat; seeds very small, ellipsoid. Native of South America, from Bolivia and southern Brazil to the Straits of Magellan. Flower variable in size, sometimes 1¼ inch broad, violet-blue: standard round, notched at the tip, margins recurved,

violet-blue; wings broad, spreading, pale lilac dorsally, nearly white in front; keel petals falcately curved, with red tips.



FIG. 181.—*Lathyrus ochrus* DC.

LATHYRUS MAGELLANICUS LAM.

Seeds of this species were received from two American seedsmen, but they proved to be the annual species, *Lathyrus sativus* L. The Cyclopaedia of American Horticulture describes this species as follows: "Stem 3-5 feet long, smooth, angled, somewhat branched; leaflets ovate or oblong-linear; tendrils branched; stipules cordate-sagittate, broad; peduncles long, 3-4-flowered; flowers dark purple-blue. June, July. Straits of Magellan. A strong-growing, woody, almost evergreen species covered with a bluish bloom. Var. *albus* Hort. . . . is the white form."

LATHYRUS LATIFOLIUS L.

Stems winged, 4-8 feet, glabrous; leaflets one pair, ovate-lanceolate, rather glaucous, mucronate, 2-3 inches long; tendrils branching; stipules broad ovate; peduncles many-flowered, longer than the leaves; legumes long, flat, reticulated lengthwise, 4-5 inches long; seeds roundish, smooth. Native of Europe, in woods. Flowers large, rose-colored, but horticultural varieties occur with white, dark purple, and striped flowers.

LATHYRUS NERVOSUS LAM.

Stems triangular, striated, 1-2 feet long; petioles with one pair of ovate, acute, mucronate, nerved, glaucous, glabrous leaflets, longer than the internodes; petioles very short; tendril branches long; stipules sagittate, nearly two thirds size of leaflets, nerved; peduncles many-flowered; calyx teeth unequal, upper ones shortest; pod $2\frac{1}{2}$ inches, linear, glabrous, containing 7-8 seeds; seeds irregular in form, brown, with smooth coats. Native of the region about Montevideo. Flowers large, purple.

LATHYRUS PRATENSIS L.

Stems smooth, tetragonal, 2-3 feet; petioles with one pair of oblong-linear or lanceolate leaflets; tendrils usually unbranched; stipules ovate, shorter than the leaflets; peduncles many-flowered, twice the length of leaves; calyx nerved, teeth nearly equal; legumes compressed, obliquely reticulated; seeds globular, smooth. Native of Europe, in moist meadows. Flowers yellow.

HISTORY OF THE CULTIVATED LATHYRUS

The word "Lathyrus" is from the Greek *λα*, *la*, augmentative, and *θούρος*, *thouros*, anything exciting, having reference to the qualities of the seeds of certain species. In Europe the species of *Lathyrus* are known as "Gesse," the sweet pea being known as *Gesse odorante*. The French know the plant under this name, or occasionally as *Pois odorante*.

and latterly as *Pois de Senteur*. The common *Gesse* of central Europe is *Lathyrus sativus*.

Of the one hundred or more species of *Lathyrus*, very few are in cultivation. Some — as, for example, the sweet pea — are of ornamental value; others, such as *Lathyrus sativus*, are of economic value as forage crops.

The species are all propagated by seed, and the perennial species by division also. Occasionally cuttings have been used, and possibly the method could be extensively adopted.

With the exception of the sweet pea, which requires the best of soil and culture, the *Lathyri* are not exacting as to soil. Some of the perennial species appear to thrive in a rather poor, dry soil and are useful in covering banks. The perennial species have long, fleshy roots, and when established they thrive for years without special care. In fact, these species are best left alone.

Descriptions of cultivated species

LATHYRUS SATIVUS L.

Blue-flowered lathyrus, or chichling vetch. An annual species, of easy culture. The flowers are sky-blue [Répertoire de Couleurs, the standard and wings forget-me-not blue 2-3 (217), back of the standard heliotrope 1 (188)] or pure white. The plant grows to a height of 2 feet and flowers early and profusely. The season is not long, but probably successive sowings would provide for a longer display of the bright blue flowers. At least two crops a year can be grown.

Don has the following to say of this species, which is a native of Italy, Spain, and France and has probably been cultivated from the earliest times: "In several parts of the continent a light, white, pleasant bread is made of the flower of this pulse, but it produced such dreadful effects in the seventeenth century that the use of it was forbidden by an edict of George, Duke of Württemberg, in 1671, which was enforced by two other edicts under his successor, Leopold, in 1705 and 1714. Divernoy Fabbroni says that in 1786 the government there cautioned the peasants against its use."

The effect of the use of the bread or seeds was that men and animals suffered from a rigidity of the limbs, which came on suddenly without any previous pain. The disease was regarded as incurable. Swine, horses, and pigeons suffered in this way, cattle grew lean; while poultry would not eat the food. Strange to relate, it appears that geese suffered no ill effects. It is recorded that if these seeds are mixed with one fourth or one half wheat flour, the bread made from them is harmless. The foregoing possibly explains the origin of the generic name.

LATHYRUS TINGITANUS L.

Tangier pea. This species is very distinct from the sweet pea, *L. odoratus*, and is sometimes cultivated in gardens with other annuals. Its culture is similar to that of the sweet pea, but, while the flowers are freely produced, they lack the range of color and the agreeable fragrance of the sweet pea. The species begins to bloom with the earliest of the sweet peas, but experience last year at this station would indicate that it does not produce flowers over so long a period. Success is dependent on prompt removal of the pods, for they develop rapidly. This plant comes from northern Africa.

LATHYRUS OCHRUS DC.

This species has pale yellow flowers, hence the common name, pale yellow pea. The plant was formerly known as *Ochrus pallida* Pers. Linnæus described it as *Pisum ochrus* and De Candolle as *Lathyrus ochrus*, the latter being now the accepted name. The species is of the easiest culture, but is not very showy nor attractive in bloom. It does not remain in bloom very long, but is of some interest botanically.

LATHYRUS SYLVESTRIS L.

This species is inferior ornamenteally to other species, but is of some value as a forage crop. It grows well on poor, sandy soil, which it improves if plowed under.

LATHYRUS PUBESCENS HOOK.

One of the most ornamental species, but is not hardy. The flowers are a beautiful blue — in fact they are said to surpass Lord Anson's Blue — and are borne several in a cluster. The species was first cultivated by M. Andre in his garden at La Croix, France. The plant attains a height of 3 to 5 feet in cultivation. Early-sown seeds give plants that bloom the same season. This species may be increased from cuttings in the fall. In England the variety is apparently not hardy except in favored locations, and is recommended as a greenhouse plant. It was exhibited before the Massachusetts Horticultural Society March 20, 1906. Color plates are found in *The Garden*, Vol. 54, p. 353, and in *Revue Horticole*, 1895, p. 40. The latter is a better representation of the color of our species.

LATHYRUS MAGELLANICUS LAM.

In the old seed lists we find Lord Anson's Blue and Lord Anson's White. The plant most frequently sold under this name is *Lathyrus sativus*. The true species is a perennial, with woody stems 3 to 5 feet long bearing long, 3-4-flowered peduncles. The color is a purple-blue.

"The history of the species," says C. Wolley-Dod, "dates from the celebrated voyage around the world of Lord Anson in the ship Centurion in 1740-1744. The Centurion, with the crew in a dreadful condition from scurvy, reached the southeastern point of South America in the beginning of March, 1741 (equivalent in our season to September). The weather was then mild and bright, and it seems to have been at the entrance of the Strait Le Maire that this pea was first found."

Martyn's edition of Miller's Dictionary says of it: "Mr. Miller has a perennial pea, which he calls *Pisum Americanum*, or Cape Horn pea, from its having been brought by Lord Anson's cook when he passed that cape, where this pea was a great relief to sailors; but it is not so good for eating as the worst sort cultivated in England."

The plant is known to gardeners from the beautiful portrait in Sweet's British Flower Garden, Series II, Table 344. It seems that after its cultivation in the Chelsea Garden it was lost until Sweet's time, when his illustration was made from a living plant in Messrs. Osborn's nurseries at Fulham. After this it was again lost sight of for a long time, until it was reintroduced in 1899.

The Reverend Mr. Wolley-Dod says that the plants do not prove to be really perennial. Sweet makes the suggestion that, being a maritime plant native of a very stormy coast, it may require sprinklings of salt.

LATHYRUS LATIFOLIUS L.

One of the most valuable of the ornamental species, and the best known of the perennial species in this country. This plant is one of the best hardy perennials, being a vigorous, rank-growing climber bearing many-flowered peduncles in great profusion. The plant is suitable for covering low trellises or as a cover for rough places, low walls, rocks, and banks. It succeeds well in shade and grows rapidly. The plants resent frequent removal. There are several variety names in the trade, but the best, so far as we can determine them at present, are *Pink Beauty*, *Delicata*, *Albus*, and *Splendens*. Another name is *Grandiflorus*, which is confused with the species *L. grandiflorus*. The latter can be distinguished by the two(rarely three)-flowered peduncles, as the varieties of *L. latifolius* bear many-flowered peduncles.

LATHYRUS PRATENSIS L.

Common yellow vetchling, meadow vetchling, or tare everlasting. The old authors describe this as an ineradicable weed because of its creeping rootstocks. Later authorities recommend it as a food for cattle, since the quality is good and it produces a considerable quantity of succulent forage.

LATHYRUS NERVOUS LAM.

This species, under the conditions at this station, made stems 1 foot long and did not flower. It is quite distinct in its plant characters. The species was discovered by Mr. Cameron, growing on rocky places near Montevideo in South America. It was first described by Doctor Vogel in *Linnæa*, Vol. 13, under the names *L. nervosus* and *L. trigonus*. It was first cultivated in England in the gardens of the Duke of Bedford, from seeds sent from Porto Bravo in southern Brazil. It is said to make a very satisfactory greenhouse subject, grown in pots and trained.

PART II. THE SWEET PEA IN BOTANY AND IN HORTICULTURE

“Here are sweet peas, on tip-toe or aflight,
With wings of gentle flush o'er delicate white,
And taper fingers catching at all things,
To bind them all about with tiny rings.”

Keats.

HISTORY OF THE SWEET PEA

Botanical history

The earliest mention of the sweet pea was made in “Sillabus Plantarum Sicillæ-nuper detectarum a P. F. Franciscus Cupani” (Panormi, 1695). It is a very small work—duodecimo—and among the plants newly discovered is the “*Lathyrus distoplatyphyllos hirsutis mollis, magno et peramoeno flore odoro.*” In 1696 the same writer issued “*Hortus Catholicus Neapolitanus*” (Neapoli). Father Cupani* exhibited considerable zeal in distributing this *Lathyrus* and in 1699 sent seed to Dr. Uvedale at Enfield, England, and to Caspar Commelin at Amsterdam, Holland.

Commelin published an illustration and description of the plant in his “*Hort-Medici Amstelodamensis*” (1697-1701). In his description he says:

“I am sowing seeds of this most elegant and very pleasant plant lately received from the Reverendo Patri Francisco Cupani, who was pleased to communicate with me and to send me these from Panormo, together with other somewhat rare seeds, in the beginning of 1699; which being sown, in the same year produced flowers and seeds, of which plant, for the sake of the elegance and pleasantness which it possesses, I have wished to set forth a delineation and description by that name which the Revendus Pater Cupani has proposed for it in the catalogue of the most learned and excellent Catholic Prince.

“This *Lathyrus*, an annual, rises to a height of 6 or 7 feet; the root is thin, the stalks compressed, solitary, projecting on both sides on these stand two wide and oblong leaves on a foot stalk, which is compressed, foliated, and raised, which footstalk ends in tendrils. From the wings of the leaves on longer pedicels spring butterfly-like flowers which are large and have a purple standard, the remaining petals are sky-blue. These flowers have a very pleasant smell.”

Commelin adopted Cupani’s name for the plant.

* Father Cupani was a very devout and learned monk and an enthusiastic naturalist. He was born in 1657 and became a monk in 1681, his order being located in the vicinity of Panormi. In addition to the two purely botanical works mentioned above he prepared an illustrated natural history of plants, fishes, animals, and so on, entitled “*Pamphytum Siculum*.” This work was published in 1712, following the death of Cupani in 1711.

The most noticeable thing about Commelin's drawing is the way in which the wings are spread laterally, possibly due to the liberties taken by the artist, for we also discover a seed pod near the top of the stem above the flowers.



FIG. 182.—*The oldest drawing of the sweet pea, 1700. Commelin's drawing in Hort-Medici Amstelodamensis*

Dr. Leonard Plukenet,* in his "Almagesti Botanici Mantissa" (1700), gives a description of the sweet pea. A dried specimen of buds, flowers,

* Dr. Leonard Plukenet (1642-1706). Apothecary at Westminster, where he had a botanic garden. Became superintendent of the gardens at Hampton Court, and Royal Professor of Botany. Published several botanical works.

and leaves, preserved in Plukenet's Herbarium which forms a part of the Sir Hans Sloane Collection, is the oldest specimen of the sweet pea in existence. This specimen must date from about 1700 and undoubtedly came directly or indirectly from the garden of Dr. Uvedale.

John Ray,* author of "Historia Plantarum Generalis" (1688-1704), describes in the third volume of this work, which appeared in 1704: "Lathyrus Major e Siciliae; a very sweet-scented Sicilian flower, with a red standard; the lip-like petals surrounding the keel are pale blue. Its seed pod is hairy." In the same connection he refers to the plant as "Lathyrus distoplatyphyllos hirsutis mollis, magno et peramoeno flore odoratissimo purpureo." The last word has been added to Cupani's description on the authority of D. Sherard.

In 1713 Mr. Petiver mentioned the plant in the *Philosophical Transactions*, in a paper entitled "Botanicum Hortense III" giving an account of divers rare plants observed that summer—A. D. 1713—in several curious gardens about London, particularly in the Society of Apothecaries Physick Garden at Chelsea. Petiver calls the plant *Lathyrus Siculus*, citing Boerhaave's "Index Plantarum quae Horto Academico Lugduno Batavo" (1710) as authority. The great Dutch naturalist considered his plant as identical with Cupani's *L. distoplatyphyllos*. Petiver describes the plants as coming from Sicily and having large, broad, sweet-smelling flowers, with a red standard (vexillum) and blue wing petals, or, as he describes them, "petalis labialibus," wrapping around the "rostrum," or young ovary. "This elegant sweet-flowered plant," continues Petiver, "I first observed with Dr. Plukenet† in Dr. Uvedale's most curious garden at Enfield, and since at Chelsea and elsewhere. Neither Gerard nor Parkinson mentions the plant, which must have been introduced after their time."

H. B. Ruppii, in "Flora Jenensis" (Francfort, 1718), places in a class of plants with irregular flowers, *Lathyrus Siculus* Ravini, and states: "In gardens they generally call it the musk-scented *Lathyrus* (*L. moschatum*). Sometimes it varies with a white flower." Now if we examine Ravini's "Introductio Generalis" (Lipsiae 1690-1699), we find that he figures "*Lathyrus Siliquis hirsutis* A., annual." He merely calls attention to the hairy pods, and this reference is extremely doubtful since there is a *L. hirsutis*, which is an annual, with hairy calyx and legume.

Thus far all the authorities give Sicily as the original habitat of the sweet pea; and the forms then known were a variety with a red or purple standard and blue wings, and, according to Ruppii, a variety with white flowers.

* John Ray (1627-1705). One of the most distinguished of English naturalists. Author of many works, chief of which was "Historia Plantarum."

† Plukenet died in 1706, therefore this sentence doubtless refers to observations made between 1700 and 1706 and not to the summer of 1713.

Burmann, in 1737, published his "Thesaurus Zeylanicus," wherein he mentions: "Lathyrus Zeylanicus odorato flore amoene ex albo et rubro vario, Nobis. Lathyrus Zeylanicus hirsutis flore variegato odorato Herb. Hart. This plant differs from the L. odorato of Cupani only in the variety of the flower, and since it has been well described and set forth in Hort. Amst., part 2, p. 159, Fig. 80, we do not further describe it here, since also, in addition, these plants are well known to all since they frequently occur in our gardens."

Regarding the reference to Herb. Hart., Burmann says: "Hartog, or Hertog, is a herbarium which I keep and which contains very many most elegant Zeylanian plants, and was sent once by him from Zeylona to Cornelius Vossus, the gardener at Leyden." Burmann did not visit Ceylon, but received his specimens from others; and the early death of John Hartog,* who explored the island, prevented any correction of errors.

Linnaeus, in "Hortus Cliffortianus," 1737, p. 368, gives the following:

"Lathyrus pedunculis bifloris, cirrhis diphyllis, foliis ovato-oblongis.

"Lathyrus siculus. Rupp. jen., 210.

"Lathyrus distoplatyphyllos hirsutis mollis, magno et peramoeno flore odoro. Comm. Hort. 2, p. 159, t. 80, Boer. lugd. 2, p. 42.

"Crescit in Sicilia. Sii nomini sides."

Linnaeus published a work on the plants of Ceylon in 1747, but did not mention the sweet pea. In his "Hortus Upsaliensis, Stockholmiae" (1748) he referred to the sweet pea as follows:

" α Lathyrus pedunculis bifloris, cirrhis diphyllis, foliis ovato-oblongis, leguminibus hirsutis. Hort. Cliff., 368.

" α Lathyrus siculus. Rupp. jen., 210.

"Lathyrus distoplatyphyllos hirsutis mollis, magno et peramoeno flore odoro. Comm. Hort. 2, p. 159, t. 80.

" β Lathyrus Zeylanicus. Odorato flore amoene ex albo et rubro vario. Burm. Zeyl., 138.

"Habitat: α in Sicilia; β in Zeylona.

"Hospitatur in ollis annua.

"Obf. Hacc coronaria, sauveolus, in β vexillum rubrum alae albae carina alba apice rusescente."

From the above it will be seen that the great botanist makes two varieties, and recognizes first the *Lathyrus Siculus* of Boerhaave but gives the name of Commelin, who adopted that of Cupani, as a synonym; second, he admits the Zeylanian *Lathyrus* wholly on the authority of Burmann. It is thought by some that the omission of this plant from his work on Zeylanian plants led the botanists to call the attention of Linnaeus

* John Hartog was trained in the Leyden Garden and made a journey to Ceylon at the instigation of Boerhaave and of William Sherard, Director of the Garden. He sent plants and seeds to Voss. He died in the prime of life from exposure and unsuitable food.

to the fact and that the above classification was made to correct this omission.

Philip Miller, 1752, gives " *Lathyrus distoplatyphyllos hirsutis mollis, magno et peramoeno flore odoro*, Hort. Cath. Broadleaved, hairy, soft chichling with large and very beautiful, sweet-smelling flower, commonly called sweet-scented peas."

Linnæus, 1753, in his great " *Systema Plantarum Europae*," classifies the sweet pea as follows:

" *Odoratus* 11. *Lathyrus pedunculis bifloris, cirrhis diphyllois, foliis ovato-oblongis, leguminibus hirsutis*. Hort. Cliff. 368, Hort. Upsal. 216, Roy. lugd. 363.

" *Siculus* α *Lathyrus Siculus*. Rupp. jen., 210.

Lathyrus distoplatyphyllos hirsutis mollis, magno et peramoeno flore odoro. Comm. Hort. 2, p. 219, t. 80.

" *Zeylanicus* β *Lathyrus Zeylanicus*. *Odorato flore amoene ex albo et rubro vario*. Burm. Zeyl., 138.

" *Habitat: α in Sicilia; β in Zeylona.*"

Here is the first use of the term " *Odoratus* " as a distinctive name.

Kniphof, in his " *Botanico in Originali* " (1757-1763), gives colored illustrations of the pressed flowers of Painted Lady sweet pea. In Vol. II the stems bear two flowers, and in Vol. V there is only one flower on a stem. S. B. Dicks, who has written much on the history of the sweet pea, thinks that the first illustration is from a dried specimen, sent from Ceylon. He says: " The colors are those of the Painted Lady as now grown, but the standards are small and of poor substance, the wings being in each case the most prominent parts of the flowers."

Mr. Dicks, who is an English authority on the history of the sweet pea, says that no mention is made of the sweet pea in Paoli Bocconi's " *Icones Plantarum Siciliae* " (Oxford, 1674), which he regards as a rather remarkable fact. The writer has had an opportunity to examine this work, among others, and he finds that Bocconi does not mention *Lathyrus*, Vetch, *Orobus*, or, in fact, any of the Leguminosac. As proof that the *Lathyrus odoratus* did not occur in Sicily this work is worthless. However, Mr. Dicks called the attention of G. Sprenger to the facts regarding the origin of the sweet pea, and the latter undertook an investigation. Mr. Sprenger reported to Mr. Dicks as follows:*

 " I retain that the plant is really a native of the two most important Italian islands, Sicily and Sardinia. I have just come from Sicily, where I could see the plant in the neighborhood of Corleone, a town lying in the interior on a range of hills, and in several other wild regions round

* " *All about Sweet Peas*," p. 21.

about, together with other Papilionaceae. The plant has all the appearance of being of spontaneous form, and not an imported one. The above locality has been but very rarely visited and it is apparently to be excluded that *L. od.* was brought there. It is surprising that the *Lathyrus* has been found in but a few places, but this does not mean much. From what I could deduct, the plant grows in three or four places in Sicily and it has also been found in Sardinia.

"Our most learned men retain that the *Lathyrus* is really an indigenous kind in Sicily, because it presents all the characters of being of spontaneous growth. The flowers of our kind are purple (*purpurea*), while those of Ceylon are rose-colored. This could be a variation due to the climate, but I was unable to find out if the *Lathyrus* varies or if the white-flowered variety is found growing spontaneously."

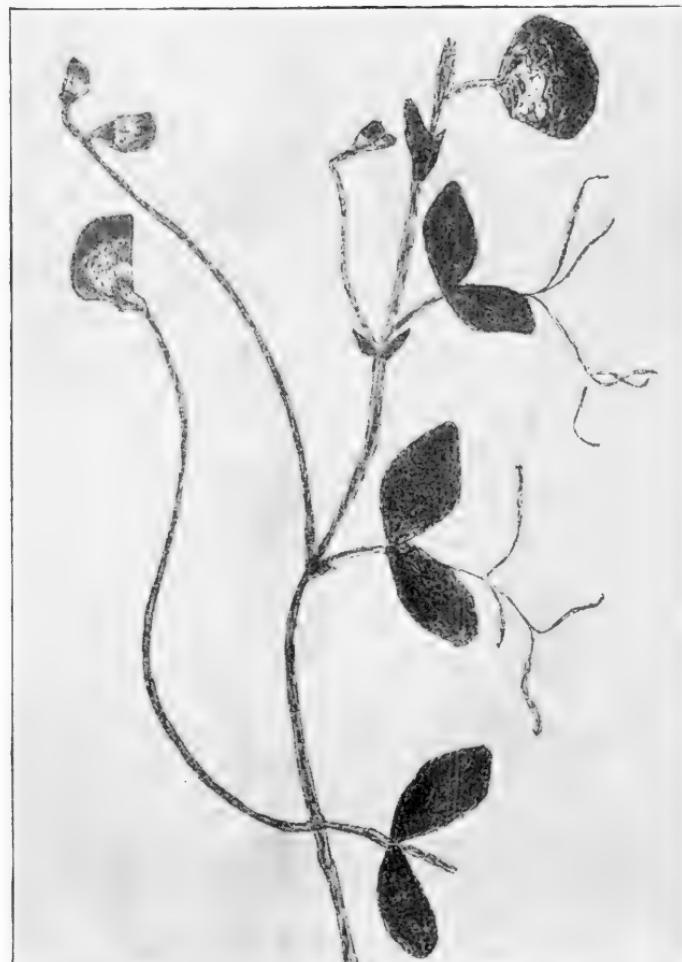


FIG. 183.—Kniphof's figure of the sweet pea. (*Kniphof, Botanico in Originali, 1757-1763*)

It has already been noted that the early writers considered Sicily as the native country of the sweet pea. Burmann was the first to catalog a sweet pea from Ceylon, which he admitted differed only in the color of the flowers from the *Lathyrus* described by Cupani. However, he proceeded to found a new species upon the sole character of difference in

color of the flowers. Linnaeus, writing a flora of Ceylon ten years later, did not describe a sweet pea from there. Neither of these botanists visited the island, and none of the later works on the plants of Ceylon, including those of Trimen, mention *Lathyrus odoratus* as native of that island.

The great mass of evidence, therefore, is in favor of Sicily as the original home of the sweet pea. The question arises as to how Burmann could have been misled. May it not have happened that Voss had seeds of the sweet pea which were accidentally mixed or included with the collection of Ceylon seeds? The color of the flowers was different from existing varieties, being red and white. That this would naturally be the direction of variation is shown by the fact that the first Cupid was white, while the second variety, Pink Cupid, was red and white. The first of Burpee's bush form was of this color, which is an extremely precocious color. It would appear, since the sweet pea is never found in Ceylon, and also from the fact that Burmann was aware that his plant differed only in color of the flowers from Cupani's plant, that *Lathyrus Zeylanicus* Burm. was only a variation from the original form received from Sicily in 1699.

British horticultural history

The earliest trade mention of sweet peas, according to Beale,* is found in the catalog of Benjamin Townsend (1724), who subscribes himself late gardener to Lord Middleton. He merely quotes sweet pea seed.

Robert Furber offered seed of the purple variety of sweet pea.

In "Twelve Months of Flowers" (1730), a set of engravings designed by Peter Casteels from the collection of Robert Furber, gardener at Kensington, and engraved by H. Fletcher, is to be found probably the first colored illustration of the sweet pea. The purple sweet pea is shown in the bouquet for the month of June. The form of the flower is very loose and irregular, with a small reflexed standard and very large wings.

In Miller's Gardeners Dictionary, first folio edition, 1731, is found the following, referring to the culture of *Lathyrus Tingitanus* and *Lathyrus distoplatyphyllos*:

"The fifth and sixth sorts are annual plants which are propagated only by seeds: these may be sown in March in the place where they are to remain for good; being plants that seldom will grow, if transplanted, except it be done when they are very young. These should be sown near a Pale, Wall, or Espalier, to which they may be trained, or, if sown in the open borders, should have stakes placed by them, to which they should be fastened; otherwise they will trail upon the ground and appear very unsightly; which is the only culture these plants require; except the

* Gilbert Beale, in Gardening World, 1900, pp. 741, 742, and 765.

cleaning of them from weeds. They produce their flowers in July and their seeds are perfected in August and September. But the best method to have them very strong is, to sow their seeds in August under a warm wall or hedge where they will come up in the autumn and abide the winter very well; and these will begin to flower in May and continue to produce fresh flowers until July or later, according to the heat of the season; and one of these autumnal plants will be as large as four or five of those sown in the spring and produce ten times the number of flowers; and upon these plants you will always have good seeds, when sometimes the other will miscarry; however, it is very proper to sow seeds at two or three different seasons in order to continue their flowers the longer; for the late-planted ones will continue blowing until the frost prevents them.

"The sweet-scented sort is the most valuable both for beauty and fragrancy of its flowers. Of this sort there are two other varieties: one of these has pale red flowers, which are called by gardeners Painted Lady peas; the other hath entire white flowers; both these may be allowed a place in the borders of the flower garden for the sake of variety."

From the preceding it is clear that three varieties were known at least as early as 1731. In the eighth edition of the Gardeners Dictionary, 1768, the same varieties are again noted.

James Justice, in the Scots Gardeners' Director (1754), criticised the catalogs of the Dutch seedsmen and nurserymen who were sending their catalogs throughout England. He says, "They are neither rightly named botanically or otherwise," and for illustration proceeds to quote from the "Caalogus van Schoone Bloem-Zaaden te Vinden," by Dirk and Pierre Voorhelm, "Bloemists te Haarlem": "No. 176 *Lathyrus odorante flore albo et rubro variegato*"; "No. 177 *Lathyrus odorante flore purp. et rubro variegato*."

Justice then proceeds as follows: "The first named is the *Lathyrus angustifolius flore ex albo et rubro variegato odorato*, mentioned by J. Bauhinus, 1650. This is the Painted Lady pea vulgo, a variety seminal of the 177 but not so sweet-smelled." Regarding No. 177 he says: "This is the *Lathyrus distoplatyphyllos* of Hort. Cathol., the sweet-scented pea vulgo; of this kind of pea there is both the purple and the white flowered forms."

In the catalog for 1778 of W. Malcolm, seedsman, of Kensington Turnpike, there were offered white, purple, and Painted Lady sweet peas.

The Universal Gardener and Botanist of Mawe and Abercrombie, 1778, gives under *Lathyrus*: "Varieties of, are, purple-flowered sweet peas, white-flowered sweet peas, variegated or Painted Lady sweet-scented pea."

The first evidence of improvement is noticed in the catalog of John Mason (original founder of the business of Cooper, Taber & Co.), published

in 1793 at The Sign of the Orange Tree in Fleet Street. He offered black, purple, scarlet, white, and Painted Lady peas.

In Martyn's edition of Miller's Gardeners Dictionary, 1807, the sweet pea, with its varieties, is classified with the *Lathyri*:

“With two-flowered peduncles:

- “ *Lathyrus odoratus*..... Sweet *Lathyrus* or pea
L. Spec. 1032, Reich. 3. 465, Hort. Cliff. 368, Upsal. 216, Curtis Mag. 60
Floribus albus..... White-flowered sweet pea
Alis carinaque albis, vexillo carneo..... Old Painted Lady pea
Alis carinaque carneis, vexillo rubro..... New Painted Lady pea
Alis carinaque pallide coeruleus, vexillo atropurpurea.... Common sort
Carina pallide violacea, alis faturate violaceis, vexillo atropurpureo
Peduncles two-flowered, tendrils two-leaved, leaflets ovate-oblong,
legumes hirsute.

“ The sweet pea, as it is commonly called, is an annual plant which rises from three to four feet high by means of its long, clasping tendrils. The flower stalks come out at the points, are about six inches long, and sustain two large flowers which have a strong odour; and are succeeded by oblong, hairy pods having four or five roundish seeds in each.

“ In the common sort the corolla has dark purple standards, with the keel and wings of a light blue. Other varieties are the white; the pink with a white keel and wings pale blush color; the rose-coloured standard with keel and wings pale blue; these that have a mixture of red with white or a pale blue are called Painted Lady dies. There is also a variety of the common dark sort with the keel pale violet and the wings dark violet, etc.”

Page, in his “ *Prodromus* ” (1817), mentions a striped variety.

Thorburn, in 1824, catalogued the following varieties of sweet peas:

- “ Painted Lady—*Lathyrus odoratus* fl. carnea
- White—*Lathyrus odoratus* fl. albo
- Black—*Lathyrus odoratus* fl. obscuro
- Purple—*Lathyrus odoratus* fl. purpureo
- Scarlet—*Lathyrus odoratus* fl. roseo ”

A yellow sweet pea is designated as *Lathyrus aphaca*. In 1827 the same firm offered a striped variety.

Roland Green, whose “ *Treatise on the Cultivation of Ornamental Flowers* ” (Boston, 1828) was the first distinctly floricultural book published in North America, speaks of sweet peas as follows:

“ Pea, sweet (*Lathyrus odoratus*)—There are many species as to color and fragrance. These are annual. The Everlasting Pea (*Lathyrus C. folius*) is perennial and produces many clusters of showy flowers, and

remains in bloom a long time. The seed should be planted early in the spring."

Edward Sayers, whose book "The American Flower Garden Companion" (Boston, 1838) was the second floricultural book published in America, gives in the appendix of the book the following list:

"Sweet pea, Painted Lady, <i>Lathyrus odoratus</i> . . .	4 ft. fleshed color
White sweet pea <i>Lathyrus alba</i>	2 ft. white color
Purple sweet pea <i>Lathyrus fl. purpurea</i>	2 ft. purple color
Scarlet sweet pea <i>Lathyrus fl. rosea</i>	2 ft. scarlet color
Striped sweet pea <i>Lathyrus fl. striata</i>	2 ft. striped color "

Thus we see that all the varieties were known in this country previous to 1840.

Mr. Carter (founder of Messrs. J. Carter & Co. of Holborn) offered in 1837 the five varieties previously offered by Mason, and also the striped variety.

In Mrs. London's "Ladies' Flower Garden of Ornamental Annuals" (1840) descriptions are given of a number of annual species of the genus *Lathyrus*, among them *L. odoratus*. Under the head of "Varieties" occurs the following: "There are six distinct kinds of sweet peas in constant cultivation, all of which, with very few exceptions, come true from seed. There are the purple, which has a standard of deep reddish purple, the wings pinkish, and the keel nearly white, and is a native of Sicily; the New Painted Lady, which has the standard deep rose colour, the wings pale rose, and the keel pure white, and is a native of Ceylon; the white sweet pea, which has flowers a pure white; the Old Painted Lady, which has the wings and keel white and the standard flesh-coloured; the blue, which has the wings and keel a pale blue and the standard dark bluish purple; and the violet, which has the keel a pale violet, the wings a deep violet, and the standard a dark reddish purple."

Between 1845 and 1849 the firm of Messrs. J. Carter & Co. introduced a New Striped Sweet Pea and a New Large Purple Sweet Pea.

In 1850 Messrs. Noble, Cooper & Bolton (predecessors of Cooper, Taber & Co.) introduced a New Large Dark Purple.

In 1860 Mr. Carter offered nine varieties, besides a yellow-flowered variety and the variety Blue Edged. The last-named variety was white, with a well-marked blue edge, and it was stated that it was the result of many experiments made by Major Trevor Clarke, of Daventry, in crossing a pure white sweet pea with the perennial bright-blue-flowered Lord Anson's pea, *L. Magellanicus*. Later, in 1883, under the name "Blue Hybrid," this variety received the First Class Certificate of the Royal Horticultural Society.

It was in 1865 that the First Class Certificate of the Royal Horticultural Society was first awarded to a new sweet pea. This was the variety called Scarlet Invincible, exhibited by Steven Brown, of Sudbury, and offered in Carter's catalog for 1866, where it was both described and illustrated. This was the first illustration of a sweet pea novelty ever published in a seedsman's catalog.

James Vick's "Illustrated Catalogue and Flower Guide" for 1870, under the division of Ornamental Climbers, gives the following varieties of sweet peas: Scarlet, Scarlet striped with White, White, Purple striped with White, Painted Lady, Blue Edged, Black, Black with Light Blue, and Scarlet Invincible.

The prices may be of interest, for Mr. Vick says: "I am so desirous to encourage the general culture of this sweet flower that I have made the price very low—the papers are large and the price by the pound and ounce about cost." The first five varieties were offered at 10 cents per packet, 20 cents per ounce, \$3 per pound; Blue Edged, 30 cents per ounce, \$4.50 per pound; the last three, 15 cents per packet, 40 cents per ounce, \$6 per pound; mixed seed, 10 cents per ounce, \$1 per pound.

About this time (previous to 1870) Messrs. Haage & Schmidt, of Erfurt, sent out Crown Princess of Prussia, the beautiful light pink variety. In 1873-1874 the same firm sent out Fairy Queen, which was a leading variety for many years. Butterfly, quite similar to Blue Edged, was introduced by Sutton & Sons in 1878. A color plate of this appeared in *The Garden*, Vol. 13, 1878, p. 44.

Messrs. Carter had the honor of publishing the first colored illustration of a new sweet pea to appear in a seedsman's catalog, when they sent out Violet Queen in 1877.

Prior to 1881 the following varieties had appeared: Purple, White, Painted Lady, Scarlet, Black, Purple, Striped White, New Painted Lady, Large Dark Purple, Yellow, Blue Edged, Scarlet Invincible, Scarlet striped with White, Black Invincible, Crown Princess of Prussia, Fairy Queen, Purple Invincible, Invincible Striped Violet Queen, Heterosperma, The Queen, Captain Clarke, and Imperial Purple. The opening decade (1880), however, was to witness great things for the sweet pea, for about this time two capable florists began work on the improvement of the flower. Those men were Thomas Laxton and Henry Eckford.

Mr. Laxton, of Bedford, commenced about 1877 and for several years worked assiduously in this field. In 1883 he won a First Class Certificate from the Royal Horticultural Society for the excellent variety Invincible Carmine. It is said that this variety is the earliest recorded from cross-fertilization, for, although the exact varieties are unknown, it was a cross of a red-flowered with a purple-flowered variety. Mr. Laxton appears

to have made many crosses, using the best varieties known at the time as well as his own best seedlings. Among the varieties introduced by him are Etna, Madame Carnot, Invincible Blue, Carmen Silva, and Rising Sun.

After Mr. Laxton's death the work was carried on by his sons, who introduced Princess May and Sultan. They also made crosses of the Cupids, of which mention is made under that division of our subject.

Mr. Eckford began his work of improving sweet peas about 1870, while in charge of the gardens of Doctor Sankey at Boreatton. His collection consisted of the varieties known as White, Scarlet, Black, Painted Lady, and Butterfly. Later he started in business for himself at Wem, Shropshire, a small village but a place which he has made famous throughout the world. Here he worked, crossing and intercrossing all the varieties. His first notable result was Bronze Prince, which was exhibited before, and awarded a First Class Certificate by, the Royal Horticultural Society, August 8, 1882. This variety was sent out by W. Bull. Year by year the introduction of new varieties was forwarded, despite the claims of some persons during the earlier years that Mr. Eckford's varieties were no better than existing varieties. Steadily he kept at work, bringing out new varieties that were of improved size, form, or color. In the early nineties his varieties caused a sensation in America, and under the leadership of the Reverend W. T. Hutchins there was great enthusiasm in growing sweet peas for exhibition, and above all for home decoration. This supplied the required stimulus, largely lacking at home, for Mr. Eckford to put forth his best efforts, and the result is the remarkably long list of meritorious varieties that he sent out.

Aside from Bronze Prince, the following are some of the early Eckford varieties: Blue King, Charming, Duchess of Albany, Princess, Grandeur, Emperor, Black Prince, Leviathan, Rosalind, Maggie Ewing, Salmon Queen, Lavender Gem, Empress Victoria, Queen of Roses, Queen of Stripes, Purple Queen. How many of these were introduced we have been unable to ascertain.

In 1885 Mr. Eckford introduced Queen of the Isles and Grand Blue; in 1886 or previously, Cardinal, Indigo King, Princess of Wales, and Miss Ethel. These were offered in the United States by Joseph Breck in 1886. The varieties introduced in 1885, together with Miss Ethel, were also offered by Peter Henderson.

In 1887 Mr. Eckford sent out Duchess of Edinburgh, Imperial Blue, Isa Eckford, Orange Prince, and The Queen. These were offered by Breck the same year. Miss Hunt was also probably sent out this year. The following varieties were sent out in succeeding years:

In 1888, Apple Blossom, Boreatton, Mauve Queen, Queen of England, and Splendour.

In 1889, Captain of the Blues, Delight, Mrs. Gladstone, Mrs. Sankey, and Purple Prince.

In 1890, Alba Magna, Countess of Radnor, Lottie Eckford.

In 1891, Dorothy Tennant, Duke of Clarence, Empress of India, Monarch, Princess Victoria, and Senator.

In 1892, Emily Eckford, Her Majesty, Ignca, Lemon Queen, Mrs. Eckford, and Waverly.

In 1893, Blushing Beauty, Firefly, Gaiety, Lady Beaconsfield, Lady Penzance, Ovid, Peach Blossom, Royal Robe, Stanley, and Venus.

In 1894, Blanche Burpee, Duke of York, Duchess of York, Eliza Eckford, Meteor, Mrs. Joseph Chamberlain, Novelty, and The Belle.

In 1895, Alice Eckford, Captivation, Countess of Aberdeen, Crown Jewel, Little Dorrit, and Mikado. These were offered by the Reverend Mr. Hutchins in 1896.

In 1896, Coquette, Countess of Shrewsbury, Lovely, Mars, Prima Donna, and Royal Rose, which were offered in the United States in 1897 by Burpee and the Reverend Mr. Hutchins.

In 1897, Countess of Powis, Lady Nina Balfour, Prince Edward of York, Queen Victoria, Triumph, Salopian, and Shahzada.

In 1898, Black Knight, Chancellor, Colonist, Duchess of Sutherland, Lady Grizel Hamilton, Lady Mary Currie, and Prince of Wales.

In 1899, Countess Cadogan, Duke of Westminster, The Honorable F. Bouverie, Lady Skelmersdale, Mrs. Dugdale, Othello, and Sadie Burpee.

In 1900, Calypso, Countess of Lathom, Duchess of Westminster, Fascination, Lord Kenyon, and Mrs. Fitzgerald.

The two-hundredth anniversary of the introduction of the sweet pea was celebrated by the Sweet Pea Bi-Centenary Celebration in London in 1900. Including the introductions of that year, there had been two hundred and sixty-four varietal names of the tall-growing type of sweet peas catalogued. This included all the indeterminate variety names, as Purple, Purple Black, Purple Brown, Purple Striped, Light Blue and Purple, Red Striped, Striped Red and White, Striped Scarlet, Scarlet, Dark Red, Red striped with White, and so on; also, slight variations in color, form, and the like, as Striped Celestial, Light Gaiety, Extra Early Blanche Ferry, New Countess, and others, as well as the double sweet peas.

Out of this extensive list not more than one hundred and seventy-five varieties had been catalogued by any seed firm; the remainder were scattering introductions, some of which were not listed for more than one year. Mr. Eckford is responsible for one hundred and fifteen varieties. The relative superiority of the Eckford varieties is seen when we examine the lists of this period, for we find, for example, in Burpee's catalog for 1899, one hundred and forty varieties exclusive of doubles and cupids,

and eighty of those are varieties originated at Wem. One fifth of the remainder are of the old varieties introduced prior to 1880. As late as 1907 we find that in Mr. Morse's list of the fifty leading varieties, based on the amount of seed of each demanded by the trade, twenty-eight of the varieties originated on Eckford grounds. In his selection of the best fifty varieties Mr. Morse included thirty-one Eckford varieties—a truly remarkable record of achievement for one man as against the field, especially when we take into consideration also the fact that after Mr. Eckford had "broken the type" many of the results obtained in California were rendered possible.

Mr. Eckford's further introductions are as follows:

1901, Coccinea, George Gordon, Honorable Mrs. E. Kenyon, Lady Ormsby-Gore, Miss Wilmott.

1902, Gracie Greenwood, Jeannie Gordon, Lord Rosebery.

1903, Agnes Johnston, Dorothy Eckford, King Edward VII, Mrs. Walter Wright.

1904, Mrs. Knights-Smith, Marchioness of Cholmondeley.

1905, Black Michael, David R. Williamson, Princess Maud of Wales, Romolo Piazzani.

1906, Henry Eckford, Queen Alexandra, Sybil Eckford.

1907, Agnes Eckford, Earl Cromer, Horace Wright, Maud Guest, Queen of Spain.

1908, H. J. R. Digges, James Grieve, May Perrett, Mima Johnston, Primrose Waved, Purple King, White Waved.

1909, Annie B. Gilroy, Dodwell F. Browne, Mrs. Charles Masters.

1910, Mary Vipan, Mrs. E. Gilman, Vicomte de Janze.

American horticultural history

The first American variety of sweet peas was that epoch-making variety, Blanche Ferry, introduced by D. M. Ferry & Co. in 1889. It was delineated by a colored plate, which was the first colored plate of a sweet pea to appear in an American seed catalog. This variety was derived from the Old Painted Lady.* Then followed Captain Sharkey (Breck, 1889), Joanna Theresa (Breck, 1889), Alba Magnifica (Henderson, 1891), Blushing Bride (Breck, 1891), and Emily Henderson (Henderson, 1893). The last-named variety was for many years the standard white, and florists especially preferred it. In 1894 W. Atlee Burpee & Co. introduced American Belle, and Breck sent out Harvard. In 1895 D. M. Ferry & Co. introduced Extra Early Blanche Ferry and Katherine Tracy. In 1896 Burpee sent out Daybreak, originated by the Reverend Mr. Hutchins, and also Grey Friar, Juanita, Oddity, and Ramona. The

* For an account of the origin of Blanche Ferry, see Bulletin 319 of this station, page 625.

same year James Vick's Sons introduced the first of the double class in Bride of Niagara, which was a double strain of Blanche Ferry or its prototype. The sensational novelty Cupid, which is the most extraordinary departure yet found among sweet peas, was sent out in this year also.

Mr. Burpee's introductions for 1897 included Aurora, Brilliant, Creole, Golden Gate, Maid of Honor, and Wawona. Mr. Lynch distributed California, Emily Lynch, and the Bride. The Sunset Seed Company introduced Golden Gleam and Red Riding Hood—the latter being the first of the Snapdragon type. Mr. J. C. Vaughan sent out America, the best of the stripes. Mr. Walker sent out Coronet. Mr. Breck distributed Snowflake, and the Reverend Mr. Hutchins sent out Columbia.

The new varieties introduced by Messrs. Burpee in 1898 were Dolly Varden, Lottie Hutchins, Modesty, Oriental, Sensation, and Stella Morse. In 1899 the same firm sent out Fashion, Gorgeous, Navy Blue, Pink Friar, and also the first of the bush type, namely, Grey Friar Bush. Mr. Walker sent out Oregonia.

In 1900 Burpee distributed Admiration, Surprise, Snapdragon, and Sunproof Salopian; in 1901, Majestic; in 1902, American Queen, Golden Rose, Salvation Lassie, and Reselected Extreme Early Earliest of All. Messrs. Ferry sent out Josephine White and Inconstancy.

In 1903, Janet Scott, Sue Earl, and Dainty were distributed by Burpee.

During 1904, Earliest Sunbeams and White Wonder were sent out by Burpee; Mr. Vaughan distributed Bridesmaid, Evening Star, Flora Norton, Florence Fraser, Mrs. George Higginson, Jr., Speckled Beauty, Sunrise, and Sunset. Messrs. Morse and Vaughan each introduced Nymphaea, and Morse sent out also Shasta.

In 1905 Burpee introduced Mrs. Sydenham. (This name was dropped for Helen Lewis, which name was adopted by the English National Sweet Pea Society.) Morse introduced Helen Pierce. Henderson sent out Phenomenal and Domino.

In 1906 Burpee distributed Earliest White.

In 1907, Brilliant Blue was sent out by Burpee and Mr. Vaughan introduced Coral Gem.

The new American sweet peas for 1908 included Burpee's Apple Blossom, Spencer, Primrose Spencer, and White Spencer. Messrs. C. C. Morse & Co. introduced Florence Morse Spencer.

In 1909 Messrs. Morse introduced Captain of the Blues, Spencer, Flora Norton Spencer, and Tennant Spencer. The varieties Aurora Spencer, Asta Ohn Spencer, Beatrice Spencer, King Edward Spencer, Mrs. Routzahn Spencer, Mrs. Sankey Spencer, Ramona Spencer, Queen Victoria Spencer, and Lovely Spencer were catalogued by Burpee and by Morse for the first time in this year.

Miriam Beaver, Marie Corelli, Senator Spencer, and W. T. Hutchins were introduced in 1910 by Messrs. Burpee and Morse.

The 1911 introductions include Dainty Spencer, Ethel Roosevelt, Rose de Barri, Purple Prince Spencer, America Spencer, and Emily Eckford Spencer.

Truly a long list. Among them are some of the finest varieties of sweet peas yet introduced, which indicates that the American growers can equal those of any country in the world. The cupid, or dwarf, pea, the bush and the winter-flowering types, all distinct in habits of growth, were first discovered on this side of the Atlantic. Since the introduction of Countess Spencer many excellent varieties of waved form have been developed, and this work of crossing and selecting is going steadily forward. Judging from the record made by the very small number of American breeders, what would America accomplish if she had even one half the number of English producers!

EVOLUTION

During the first one hundred years of the history of the sweet pea, only three varieties, or colors, were known—purple with blue wings, pale red with white wings (Painted Lady), and white. The black and the scarlet appeared in the last years of the eighteenth century. It is quite probable that the scarlet was very far from what we to-day conceive that a scarlet sweet pea should be. In Martyn's edition of Miller's Gardeners Dictionary, 1807, we find the white, the Old Painted Lady, the New Painted Lady (the latter with a rose-colored standard and pale rose wings), the Old Purple, and a variety having a violet keel and wings and a purple standard. Sayers describes the scarlet sweet pea as *Lathyrus flore rosea*, while the Painted Lady is described as "fleshed" color. From this it may be concluded that the New Painted Lady, a rose-colored variety, was sometimes called scarlet.

The first of the striped varieties was offered in 1837, and since that date this group has been augmented until the classification now includes Striped and Flaked (red and rose, purple and blue). This classification, however, does not express the real range of color in this group, for we have crimson stripes, as in America; red and rose stripes on white, in Aurora; red and rose stripes on primrose, in Jessie Cuthbertson; mauve stripes, in Gaiety; blue stripes, in Prince Olaf and Hester; maroon-flaked, as in Senator. The American growers have introduced the majority of the best varieties of this group, among which are America, Aurora, Columbia, Daybreak, Grey Friar, Juanita, Pink Friar, Ramona, and Wawona. Many of these are now procurable in the waved form.

The variety Blue Edged, the probable forerunner of the picotee forms, appeared in 1860. This was a white variety with a well-defined blue edge, a possible hybrid between *L. Magellanicus* and a white variety of *L. odoratus*. The variety, at all events, was the first to exhibit a distinct blue color among sweet peas. Later it was known as Blue Hybrid, under which name it won an award from the Royal Horticultural Society. Sutton & Son sent out Butterfly* in 1878, which somewhat resembled Blue Edged. The so-called "blues" that followed were Invincible Blue, Madame Carnot or Imperial Blue, and Captain of the Blues, all of which had considerable red in the standard. It was not until 1899 that a good blue appeared, in Navy Blue (Lord Nelson).

The first of the soft pink varieties was Crown Princess of Prussia, 1868-1869. Isa Eckford, Peach Blossom, and Lovely are the improved varieties of this color.

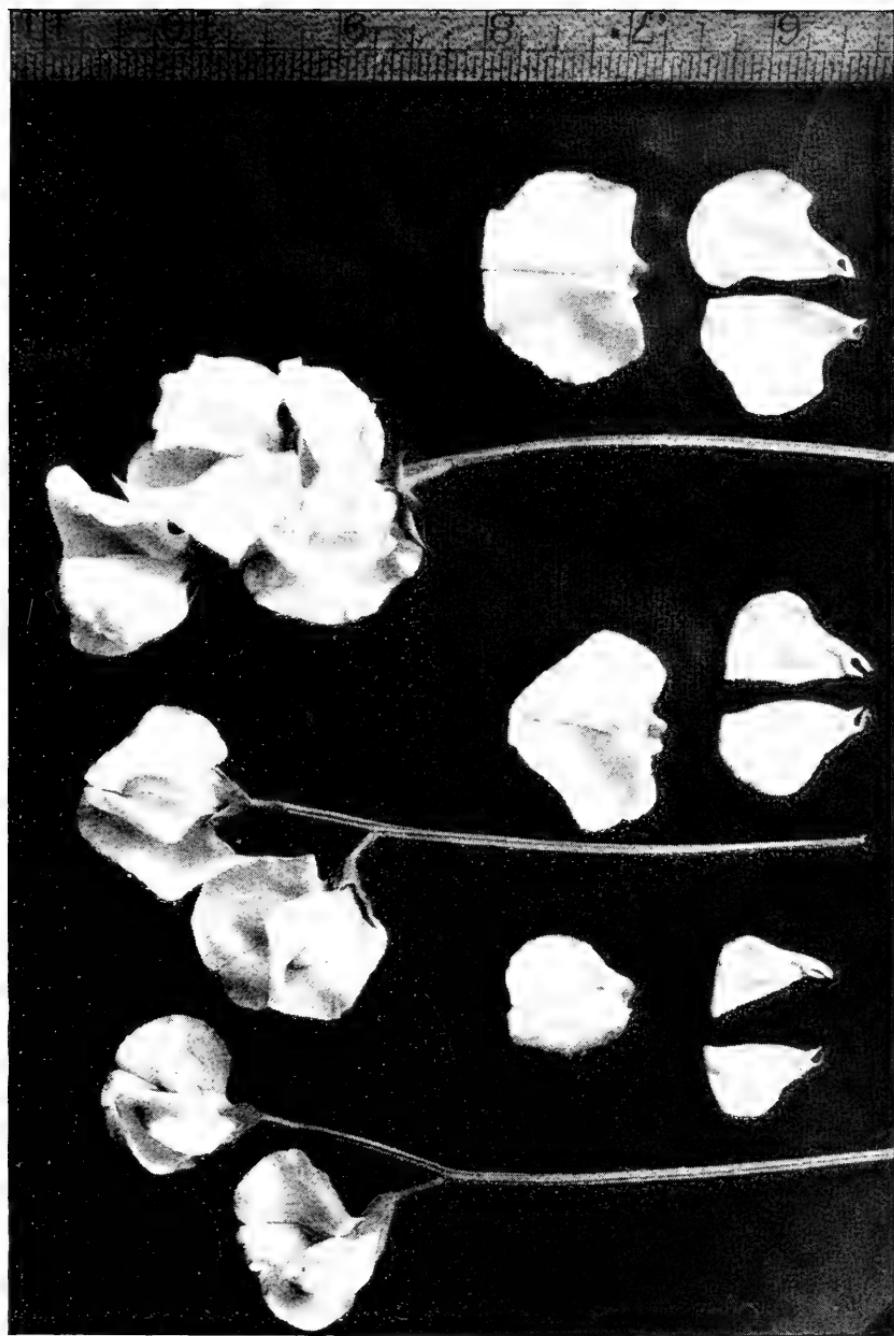
The efforts of the breeders of sweet peas have not all been directed toward the development of new shades of color; the form of the flower, also, has received attention. The earliest representations of sweet pea flowers show a loose, irregular bloom, with the edges of the standard turned back, that is, reflexed. Often, if not always, the standard had a notch in the apex and frequently in the margin. The standard, which is the principal part of the flower, has been improved in substance and the notches have been eliminated. The old type had a narrow base, and with the improvement noted has come a filling-out of the lower edges of the standard so that the outline approaches a circle.

In the efforts to produce varieties of the best expanded, or open, form, many beautiful hooded varieties were originated. While this form was condemned as inartistic by many sweet pea specialists, it nevertheless received a permanent place. Prima Donna, Lovely, and Countess of Radnor are of this form.

When many persons had reached the conclusion that no further advances in either form or size were to be expected, and that the efforts of future breeders would be directed toward securing new colors and more flowers on a stem, Nature demonstrated that she had other surprises in store. In 1901 the Countess Spencer variety was exhibited and caused a considerable sensation. The National Sweet Pea Society awarded it the highest honors. This variety was distinct from all preceding introductions because the standards and wings were waved. The flowers were very large and were borne in fours on stout stems. The variety was introduced in 1904.

The parentage of this variety has been given as (Lovely x Triumph 1898) x Prima Donna 1899. However, there appeared in 1905 a variety

* See color plate in The Garden, 13 (1878), p. 44.



Queen of England

Dorothy Eckford
Evolution of the white varieties

Eta Dyke

named Gladys Unwin, which has the same color but is smaller and less waved than Countess Spencer and which was a selection from Prima Donna without known crossing having been effected. These varieties, however, were forerunners of the new type which revolutionized sweet pea culture in England and has revived and quickened the interest in America.

POLLINATION

We have previously noted that the pistil and stamens are enclosed by the partial coalescing of the two lower petals. A very slight pressure on the base of the keel will cause the pistil to appear suddenly in the tip of the keel; the stigmatic surface is usually covered with pollen. At the same time the stamens appear to view. If the pressure is released these organs disappear as suddenly from view.

Those who are looking for flower adaptations for the promotion of cross-fertilization would say at once that here we have a mechanism that is operated by the weight of a bee alighting on the keel; the pistil and stamens rise up, striking the bee on the body and receiving and giving pollen. Thus, as the insect visits flower after flower, natural cross-fertilization is brought about.

This, however, is not the case. In the first place, if we examine flowers in the bud stage we find the pollen ripe. The position and condition of the stigma change, for before the maturation of the pollen the stigma is below the anthers. A day or two later the stigma has risen to a position among the anthers and is viscid enough to hold the pollen grains. In another day or two it has grown beyond the anthers. Self-fertilization has taken place and the development of the legume has begun. This process has taken place before the flower is fully open. Sometime later the pistil is pushed out of the protecting keel by the developing pod.

Such is the normal fertilization of sweet peas, as observed on examination of the flowers. Attention has been called to the fact that the sweet pea stood practically still for one hundred years, and the question has been asked how this can be reconciled with natural cross-fertilization.

During the writer's experience in the field each season for three months studying varieties and recording observations, not a single instance occurred of a bee alighting on the keel of the flower, nor were any bees observed crawling between the wings. All the bees observed visiting the flowers alighted on the outside of the wings and, in practically every case, thrust the proboscis down between the right wing and the standard. In this connection it may be mentioned that the bees did not show a preference for any particular color, but flew from row to row and from color section to color section.

T. H. Dipnall has observed that bees attack sweet pea flowers. The bee (a yellow-and-white-banded species) alights on the calyx, crawls around it to a certain position, and cuts a hole through the calyx so that it can thrust its proboscis through and suck the nectar at the base of the pod. The reason is not clear why the insect prefers one side of the flower, since the structure is similar on both sides.

It is to be remembered in this discussion that sweet peas under glass in winter are not visited by bees, but every flower will set seed in sunny weather if the blooms are not kept cut.

Since the introduction of the waved type there has been much discussion about the difficulty in fixing varieties and the reasons for it. Some growers, having secured what was to all indications a fixed stock, have discovered, after sending it out, that it was not fixed. Some of these growers thought that this occurred only when the novelty was sent to California for working up a large stock of seed, or after it had passed into the hands of the California growers. One of the theories advanced to explain this was that a certain insect in California was responsible for some cross-pollination of flowers. In the trials at this station during the past season no difference was observed between English or American-grown stock, since we had seeds of novelties direct from the originators and our varieties were from the introducers.

Other growers say that bees visit the flowers, and they believe that crossing takes place in the waved type, which, it is maintained, does not produce normal flowers in that the pistil sometimes projects beyond the keel. It appears that, if this view is correct, the poor seedling of the waved type would not occur, or at least that the worse the fault of the flowers, the greater the crop of seed. Thus, the varieties that seeded freely would become cheap and drive out the others. The writer thinks that the results obtained by the seed growers contradict the theory. It appears that the poor setting of seed may be due to the fact that the pistil may grow out beyond the anthers before the latter are mature, and thus fertilization can be prevented by irregular development of the parts; otherwise, the pollen may be impotent in some varieties, but this does not occur so far as the writer has studied the reports of the sweet pea breeders. The writer did not observe any pistils showing the defect mentioned, but as the season here was very dry the plants did not make an exceptional growth which would be likely to express itself in abnormal flowers exhibiting the pistil. However, it was observed that some varieties seeded more freely than others. Most of the varieties were planted here in 1911 from seeds saved in 1910 and, knowing those that were fixed the previous year as well as those with rogues of certain colors, it is thought that some light may come on this matter of cross-fertilization, if there be any, in the sweet pea.

DWARF SWEET PEAS

The dwarf, or cupid, sweet peas are varieties that grow only five to eight inches high, with a spread of twelve to fifteen inches in diameter. The procumbent stems are stout, vigorous, short, jointed, and freely branching. The foliage is a deep green. The leaflets are small and the tendrils short. The flowers, which are of the size of those of the tall varieties, are borne, two or three in number, on short stems three or four inches in length.

The dwarfing has been accomplished by an extreme reduction in length of the internodes, for an examination of the plants reveals the fact that they have as many internodes as, or more than, the tall type.

The cupid sweet peas originated in 1893 at Santa Clara, Cal., on the grounds of C. C. Morse & Co., the largest growers of sweet pea seed. The plant was found growing among plants of the tall-growing variety, Emily Henderson. Naturally, this remarkable sport was preserved and its dwarf character proved to be so fixed that it is recorded that when Messrs. Morse grew seven acres of this novelty, in 1895, none of the plants reverted to the normal climbing type.

W. Atlee Burpee purchased the variety in 1894 and had it grown in England by James Douglas, where in June, 1895, it was exhibited before the Royal Horticultural Society and was given, by unanimous vote of the committee, an award of merit. The same year it was given an award of merit by the National Horticultural Society of France.

In Burpee's circular to the trade, July, 1895, this white-flowered variety was described. It is a singular fact that but for this trade announcement a similar dwarf form would have been offered by Ernest Benary, of Erfurt, Germany, in 1896 or 1897, probably under the name of Tom Thumb White. It was such a complete description of his variety that the similarity was recognized and Mr. Benary published in his catalog the name of his novelty as a synonym of Cupid, thus preventing confusion.

In 1895 a similar dwarf appeared on the grounds of Henry Eckford at Wem, England. There is also some evidence that a similar form was found in 1895 among plants of the Old White grown in southern France.

This remarkable instance of synchronistic variation appeared in three or four widely separated localities within a period of two years. Singularly enough, so far as known, all these dwarfs had white flowers and white seeds and developed among white varieties.*

This novelty attracted considerable attention everywhere, especially among sweet pea lovers, and was offered to the public in 1896. Unfortunately Cupid, afterward known as White Cupid, the forerunner of

* A notable and somewhat similar case was the appearance of the dwarf lima beans, but here we find the origin extending over a period of twenty years and the varieties are simultaneous only in the date of introduction. Moreover, we have very distinct varieties originating from very distinct climbing varieties of lima beans of two species.

the race, was white-seeded like the parent and germinated very poorly, especially the year of its introduction. It appears that even among white-seeded peas this is probably the most sensitive to unfavorable conditions during germination.

Pink Cupid was discovered among plants of Blanche Ferry in 1895 and was introduced by Burpee in 1898. Burpee had purchased the stock of 1,068 seeds, for which he reported paying the sum of \$1,500—probably the largest sum ever paid for a new variety of sweet peas. This variety was similar to Blanche Ferry in all characteristics except its dwarf habit.

A yellow sport found among White Cupid was introduced by Burpee in 1899 as Primrose Cupid.

During the seven years following the introduction of the original Cupid sweet pea a great number of varieties appeared, reproducing all the known colors and types of the tall-growing varieties. "Several of our best Cupids," says Morse, "were found originally in the tall varieties but the majority were developed by crossing."*

Laxton Brothers, of Bedford, England, began crossing upon Cupid soon after its introduction, and at the bicentenary celebration in 1900 it was reported that this firm had dwarf counterparts of Purple, Dark Blue Striped, Captain Clarke, Rose, Light Blue Striped, Invincible Blue, Invincible Carmine, Invincible Red, Invincible Black, Sultan, Rising Sun, Boreatton, Princess Beatrice, Princess May, Princess of Wales, Etna, Vesuvius, Indigo King, Pale Madame Carnot, Waverly, Primrose, Carmine Striped, and Countess of Radnor.

It will be noticed that many of these were representatives of tall varieties that were obsolete or were passing out, and of course were not equal to such varieties of Cupid as Beauty, Alice Eckford, and Firefly, which had been introduced by that time.

Varieties of cupid sweet peas

White, or "Cupid," 1896

Pink, 1898

Alice Eckford, 1899

Beauty, 1899. Similar to Eliza Eckford

Primrose, 1899

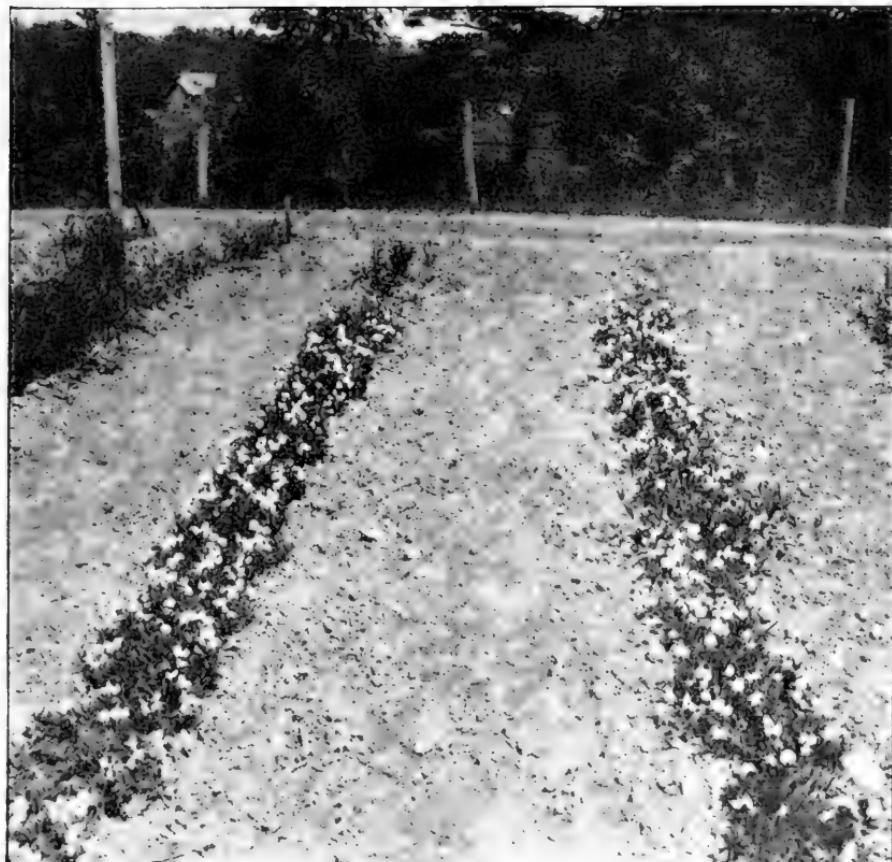
Boreatton, 1900

Countess of Radnor, 1900

Firefly, 1900

Apple Blossom, 1901

* Waldo E. Rohnert reports the results of crossing the tall varieties upon the Cupid sweet pea in Bulletin 127 (1897), Cornell University Agricultural Experiment Station.



Dwarf sweet peas

Captain of the Blues, 1901
Chamberlain, 1901. Similar to Mrs. Joseph Chamberlain
Royalty, 1901. A dark Royal Rose
Stella Morse, 1901
America, 1902
Her Majesty, 1902
Lottie Eckford, 1902
Bridesmaid, 1903
Enchantress, 1903. A dark Lovely
Mauve Queen, 1903
Extra Early Blanche Ferry, 1903
Sadie Burpee, 1903
Lady Mary Currie, 1904
Prima Donna, 1904
Prince of Wales, 1904
Salopian, 1904
Emily Eckford
Lovely
Navy Blue
Waverly
Ovid
Ramona

Unpopularity of the type

The cupid sweet peas have never been very popular for several reasons. Many persons apparently expected this dwarf type to furnish long-stemmed blossoms for cutting, thus relieving them of the necessity of providing supports for the plants. The short stems of this type were therefore a disappointment to such persons and they unhesitatingly condemned it for any purpose. In answer to the claims made that the plant was adapted for use as an edging or for bedding, it was urged that the blooming period was too short—not allowing for the fact that the dwarf type behaves similarly to the tall type and ceases to bloom if the pods are not removed. For no other reason this sweet pea has been ignored by many seedsmen, while some inferior trailing plants are still offered in their catalogs. The dwarf sweet pea has the advantage of many border plants in its great variety of colors.

In part the unpopularity of the plant has been due to the fact that the White Cupid did not germinate very successfully, especially the first year of its introduction, thus affecting the popularity of this whole race. The black-seeded varieties give a high percentage of germination, so that poor germination is not an inherent fault of the race.

The dense foliage and growth of the plants make a thick carpet over the surface of the ground, and in a wet season the result is usually failure. The flower buds drop off and the plants do not thrive even if they do not become subject to disease. The foregoing reasons explain why this type has not been very successful in English gardens.

In California, where the summers are long and dry, the cupid sweet peas thrive. During hot, dry summers in the Eastern States, when the tall varieties are subjected to very trying conditions, the cupid sweet peas grow and bloom abundantly. In 1910, ten 20-foot rows of different varieties of the dwarf type were grown at this station. When the tall kinds were having a struggle with the drought under a temperature of ninety degrees or more, the cupids, in the highest and driest position in the field, grew and blossomed profusely. They were admired by all who saw them and many questions were asked as to what they were, whether they were of recent introduction (new), and where they could be obtained.

The conditions necessary for the successful culture of the dwarf sweet peas appear to be a rather dry, moderately rich soil, a dry, hot season, good cultivation, and prompt removal of the withered flowers and pods. The seed may be sown in single rows, twin rows, or scattered in a broad drill ten or twelve inches in width. For the purposes mentioned the distinct colors are preferred. Among the best varieties are White, Pink (Blanche Ferry Cupid), Countess of Radnor, and Prima Donna.

GARDEN CULTURE OF THE SWEET PEA

The soil

Site.—An open, sunny location should be chosen, so as to provide plenty of light and air. Plants grown in too shady a position are weak and spindling in growth, producing few flowers. A little shade from the scorching, midday suns of July and August is desirable, especially for preserving certain colors.

Any ordinary garden soil is suitable for sweet peas, provided it is sufficiently drained so that in periods of excessive rains the water will not lie on the surface, causing the plants to become yellow and the roots to decay, or starting mildew. Soil suitable for the growing of vegetables will give fairly good results, but extra care in the selection and preparation of the soil will be repaid in larger flowers, longer stems, better colors, and a longer blooming period.

Preparation.—The sweet pea is a deep-rooting plant, and in order to provide suitable conditions so that the effects of drought are overcome the preparation must be deep and thorough.

Whatever the soil, unquestionably the best preparation is made by trenching the soil in the autumn.* When, owing to expense, the soil cannot be completely trenched, practically the same result may be accomplished by digging a trench fifteen inches wide for each row. The soil should be broken up to a depth of fifteen inches to two feet, and on some soils even deeper. Unless the soil is very uniform in composition, it is disastrous to bring the bottom soil to the surface; but this should be turned over in the trench, mixing with it, if heavy and compact, rather coarse stable manure or litter. Sometimes leaves are available for placing in the bottom of the trench. The use of these materials in subsoil promotes drainage, as well as improves the soil.

If a good layer (four inches) of half-rotted stable or cow manure is placed between the top and bottom spadefuls, and the top soil, if heavy, made light with old manure, an excellent preparation has been made. The office of the manure is not only to increase the store of plant food, but also to increase the water-holding power.

Bone meal, applied at the rate of one ounce per yard of trench, is essential.

A good dusting of air-slaked lime applied while working the soil in the autumn is very beneficial. Many soils that have been cultivated for a long time are acid, so that leguminous plants, such as clover or sweet peas, will not grow, or, at least, do not thrive. Lime corrects this acid condition and, furthermore, it releases plant food that would not otherwise be available in soils which are not acid. Clay soils are made more open and porous by the use of lime.

Deep preparation not only promotes available fertility, but also increases the area in which moisture and nourishment may be found, and the plant responds by sending feeding roots in all directions.

While it must not be inferred that sweet peas can be grown only in deeply trenched and prepared soils, it is true that only under exceptional conditions are the results satisfactory when this is not done. Uniformly, year after year, the sweet peas with the strongest root systems will produce the finest flowers during the longest period.

The seed

Some white-flowered varieties have white or light-colored seeds, and some have black seeds. The white seeds often give trouble by rotting in the soil — especially if planted early when the soil is cold — or because their germinating power has been impaired; also they frequently split in the pod before harvesting and in this condition are likely soon to lose

* The texture of clay soils is sensibly altered when fall-plowed or stirred and exposed to the action of frost.

their vitality. For the foregoing reasons it is advisable to sow seeds of this color rather thicker than, or not so deep as, the black-seeded varieties.

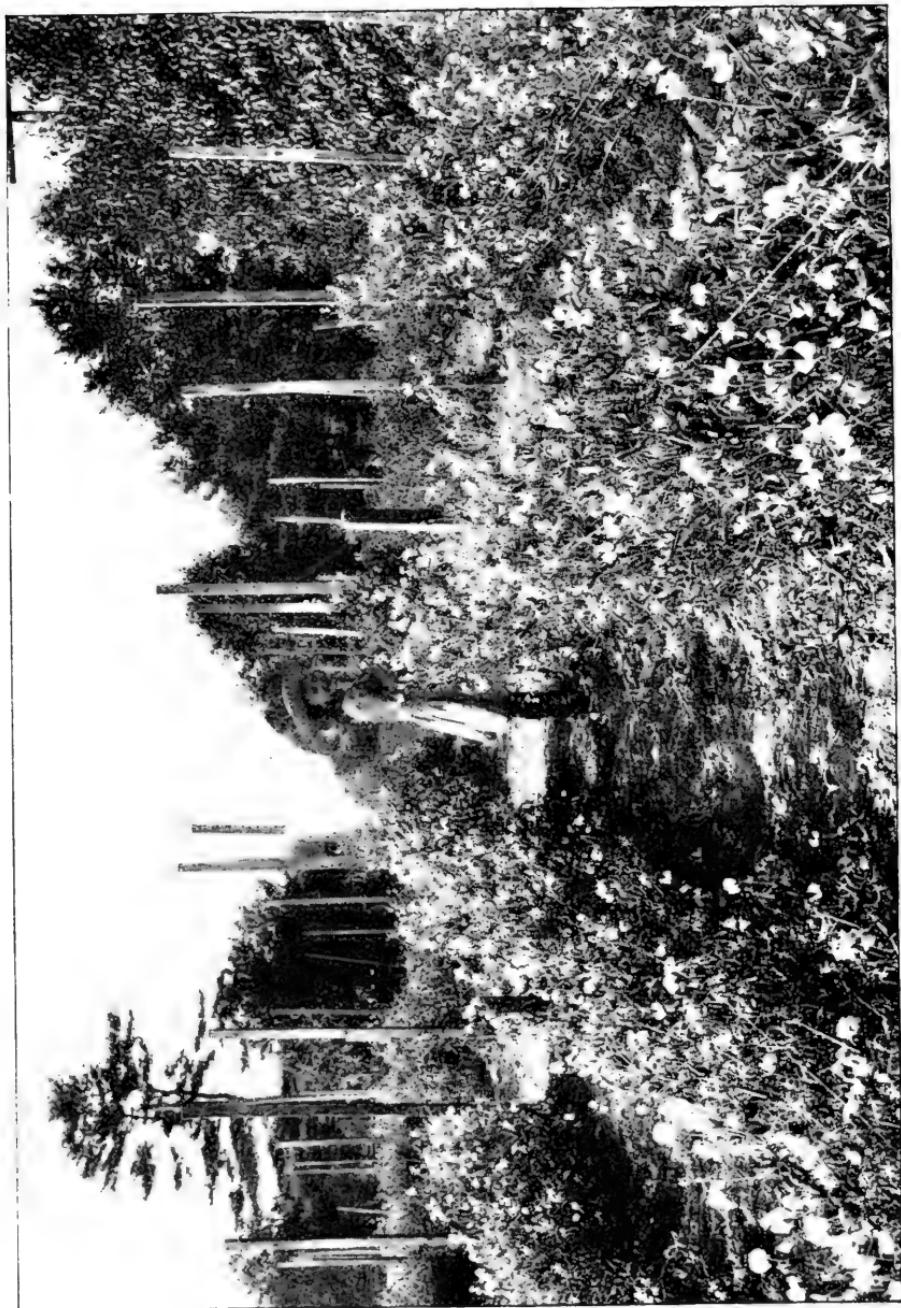
In some seasons, sweet pea seeds are slow in germinating. It is well to examine such seeds in order to ascertain their condition. If the seeds are found dormant but still fresh and plump, the seed coats should be cut with a sharp knife and replanted, when they will germinate well. This difficulty is not confined to the sweet pea, but some of the other *Lathyri* behave similarly. The trouble usually follows a very hot, dry season, when the seed becomes so excessively ripened as to render the seed coat impervious to water. Sometimes, in order to expedite germination, the seeds are soaked; a better method for the amateur is that recommended by Mr. Hutchins, the most prolific writer on sweet peas in America, who places the seed packets in moist earth for seven or eight days, then takes them out and examines them. The swollen seeds are planted and the others cut with a knife.

Planting

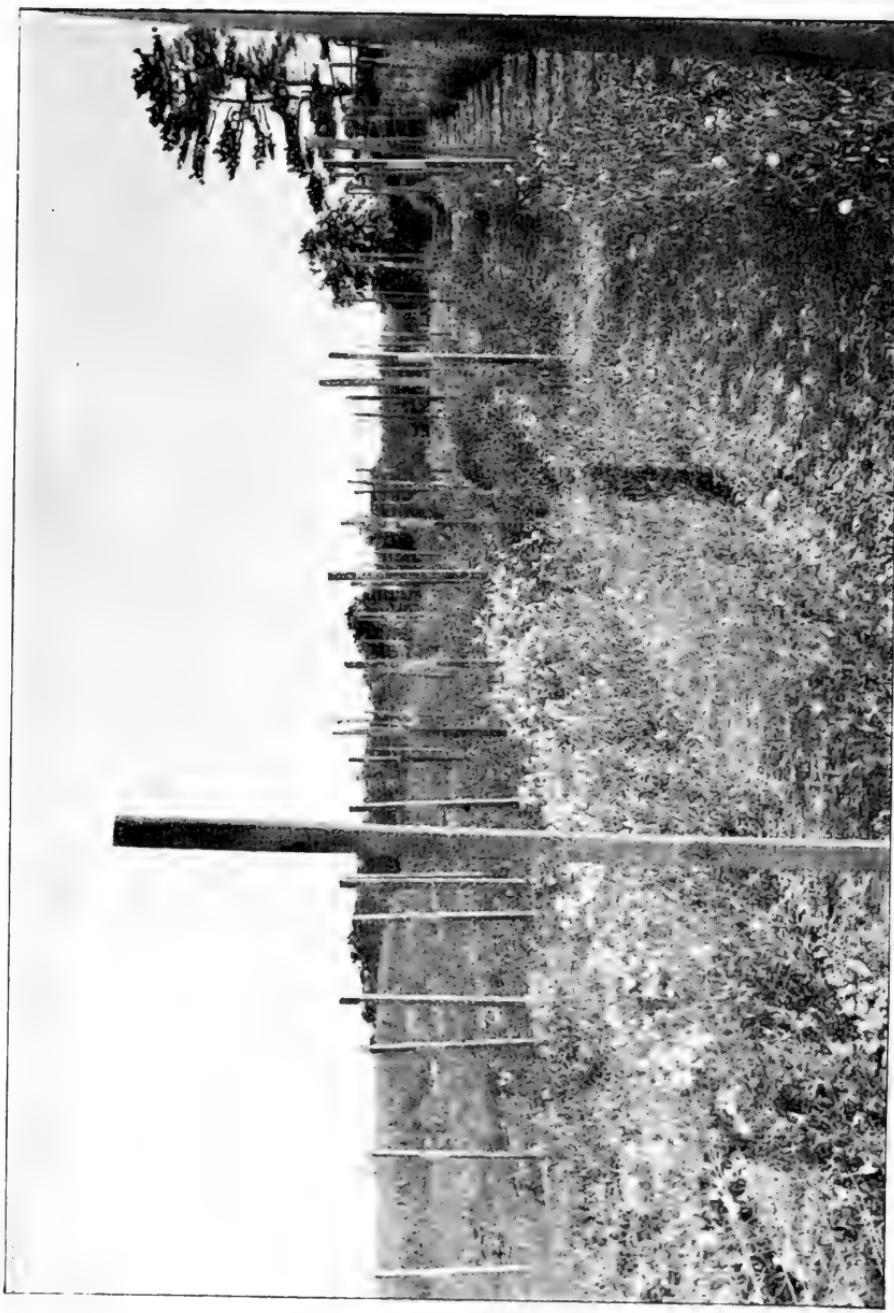
Fall planting.—In the season under discussion, the finest and the earliest flowers were secured from plantings made in the fall. The preparation of the soil is the same as that already described, except that the soil is firmed and the trench filled level. On this a trench, or furrow, two inches deep is made, and the peas are planted at least as close as one seed every two inches. The row should be slightly ridged up so as to prevent water from standing and, as stated in the beginning, it is essential that the location be on a well-drained site. When the ground freezes, a mulch of manure is placed over the row. In the spring when the bright weather comes, the plants should be examined in order to see whether they are growing or whether the soil is soggy and cold. In either case, the mulch should be removed from over the row, and should be left in the center so that, in case any weather should come when the safety of the plants is at all endangered, the old mulch may easily be applied to protect them.

The seed of the standard varieties of sweet peas is cheap, and the advantage gained in obtaining early flowers, if the plants survive the winter, is worth the effort.

Spring planting.—As soon as the frost is out of the ground and the soil in workable condition in the spring, a heavy application of superphosphate of lime should be made and raked in. Care should be exercised not to get the soil too loose, and for this reason it is best to confine all stirring of the soil to smoothing the surface. Especially is this true with light soils, which, if stirred deeply in the spring, must be well firmed. Heavy soils that are likely to bake may be improved by working in a light dressing of old, thoroughly rotted manure.



Countess Spencer sweet peas. The fall plantings, July 29, 1910



Sweet peas sown in pots versus those sown in open ground

Sweet peas should be sown just as early in the spring as the soil is dry enough to work, even though it be certain that heavy frosts may follow.

The writer thinks that one reason why even the most inexperienced amateur usually has so good average results with sweet peas, is that when this individual gets his annual "violent attack of gardening fever" in early spring, he begins his operations at just the right time for sweet peas to go into the ground.

An essential requirement in growing sweet peas is to plant early, while the atmospheric conditions are such as to prevent top growth until the plant has started a vigorous root development. The result is that, when warmer weather comes, the top grows strong and heavy, the plant branches out, and throughout the season this increased vigor is seen. Experiments made by sowing seeds every ten days from the earliest practicable date until the end of May show this result conclusively.

Depth.—If the preparation of the soil has been made in the fall, it is best only to smooth the surface of the trench and plant in this. When the preparation has been made in the spring the soil must not be left too loose—a condition that may easily occur if a deep trench is made and only loosely filled with soil and manure.

One method recommended is to hollow out a broad trench, twenty-four to thirty inches wide and two inches deep, and then sow the seed one inch deep in single or double rows. The trench should be kept open for six weeks in order to retain the water. This system is very good in a garden where all cultivation is given by hand; but where many rows are grown and cultivation is done with a horse and cultivator, it is manifestly impossible to make or to maintain such a trench. Furthermore, when horse cultivation is to be used there would be difficulty in keeping the young plants, if planted below the surface, from being covered during the early cultivations. Therefore, planting on the level is necessary in field culture. It is advisable, however, in garden culture, to plant so that when covered the row will be two inches below the ordinary level.

Shall the planting be in single drills, broad drills, or double rows or drills? It matters little, provided sufficient room is allowed for the growing plants.

Amount of seed.—The latest American book advises sowing one ounce of seed to a fifteen-foot row, and later thinning the plants to six inches apart. Now let us see what this means. Since an ounce of seed contains three hundred to three hundred and sixty seeds, if in a single drill the seeds will be three fifths to one half inch apart. If only seventy-five per cent of the seed grew (which is a very low estimate), one hundred and ninety-five to two hundred and forty of the seedlings must be removed in thinning to the distance given. In other words, the author of the

above-mentioned book advises planting ten to twelve seeds in order to get one plant, or leaving about ten per cent of the seed to grow. In the plantings at this station, one hundred seeds, except when doubtful, were sown to a twenty-foot row, or one seed every two inches, and this is heavy seeding. Under the latter system an ounce will plant fifty to sixty feet of row and, if the seed is good, it should plant still more.

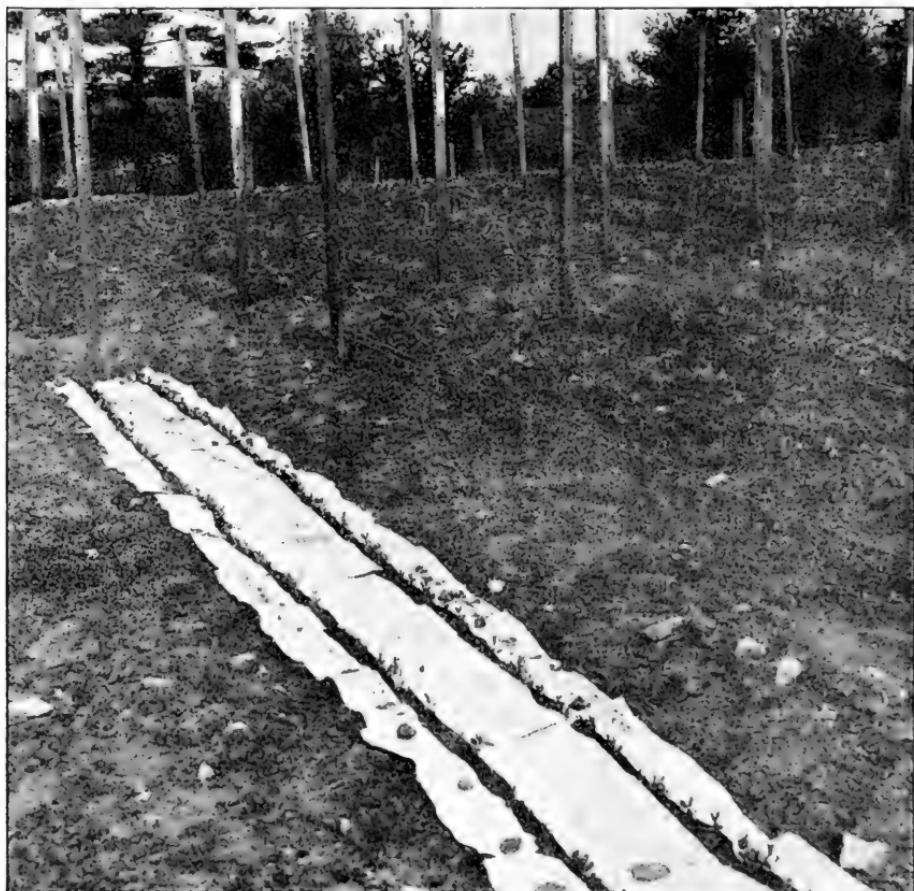


FIG. 184.—*The double-row method of planting*

Sowing in pots for outdoor bloom.—Many English growers practice sowing in pots under glass, hardening the plants in frames, and planting out. From the writer's experience with three varieties during the year under discussion, he is inclined to look on this method with favor, especially in growing high-priced novelties or varieties for exhibition. In fact, if the results of experience and observation at this station in 1910 are to be

relied on, it would appear that the successful exhibitors of the future will obtain their flowers from fall-sown or pot-grown plants.



FIG. 185.—*Sweet peas started in pots*

In order to secure suitable plants, six seeds should be sown in four-inch pots, using light, rich soil. The best time to sow sweet peas in this manner is in March. When the plants are two or three inches high they

should be given supports of short twigs and placed in a cold frame. Here they should be given plenty of air at every opportunity, in order to secure a short, sturdy growth. If the plants do not catch hold firmly, they may be tied with raffia. When spring begins and the soil is in good condition, the pots may be planted in the open, one foot apart in a single row or two feet apart in a double row. In the latter case, the plants alternate as shown below:

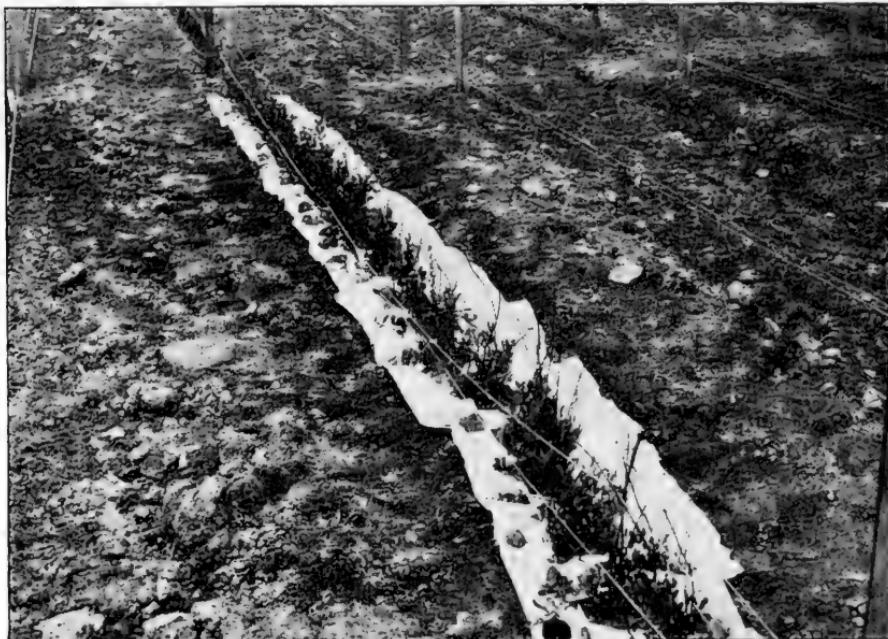


FIG. 186.—*Sweet peas transplanted from pots*

Supports

Sticks.—Among English sweet pea growers there is considerable unanimity of opinion that sticks form the best support for sweet peas. The replies of fifty-two leading experts, published in the Sweet Pea Annual for 1907, show that forty-three growers favor sticks (generally hazel sticks), five favor wire netting, two favor either sticks or wire netting—and, if the netting is new, paint it—one prefers sticks and string, and the remaining one, a correspondent from British Columbia, uses telephone wire and string.

In this country, where good twiggy boughs can be obtained, such boughs unquestionably form the best support to use since they are the most natural.

In many places birches can be obtained in lengths of twelve to fourteen feet. These may be prepared in the lengths desired.

How tall should the support be? The grower is the one to determine that. If the soil has been prepared properly and the plants look strong, and if the grower sees that the plants are watered and given every care, then the support should be six feet high. If the soil is only moderately fertile or has not been deeply prepared, or if the grower does not intend to keep all seed pods picked off or cannot water the plants in order to overcome drought, the support should be kept down to four feet. The variety has something to do with the height of the support, whatever the care bestowed, some varieties being naturally dwarfer growers.

The sticks should be cut in late winter or very early spring, so that they are still rather green and tough enough to bear the load until the end of the season. They should be inserted in the soil at least a foot, because when clothed with vines to a height of six feet a strong windstorm exerts a tremendous leverage on them. Unless the sticks have been inserted deeply, or if they have become too dead and brittle, the row will go down under the force of the wind and the great weight of the wet vines. In order to guard against disaster, strong stakes are sometimes placed every ten feet and wire is run lengthwise through the sticks and fastened to the stakes. It is desirable to have the sticks bushy at the top, so that they spread out more than at the base; if not naturally so, leaning the sticks alternately outward will produce this result. This gives greater freedom for the vines when in flower.

After the sticks are inserted, a better effect is produced if the tops are clipped to a level and straggling ends are cut back. If the sticks are not "feathered" sufficiently at the base for the plants to get started up on them, the clippings from the tops may be inserted between the tall sticks. Some growers make a practice—and it is a good one—of providing a light support when the plants are one to three inches high, and later placing the tall sticks. For the light support they often use old raspberry canes or the old stems of our wild aster—in fact, anything of a light, much branching character. This affords protection from high winds when the plants are small.

Netting.—When other systems of supporting are to be employed it is quite imperative to provide a support of small, short twigs as soon as the seedlings begin to produce tendrils. This method prevents the rain from beating the small plants down, and enables them to get up to the other support. In city gardens, owing to the difficulty in procuring suitable sticks, wire netting makes a very satisfactory support. The peas do not cling to it so well but it is cleaner and neater in appearance, which is a compensating advantage. The large mesh, four-inch, is pref-

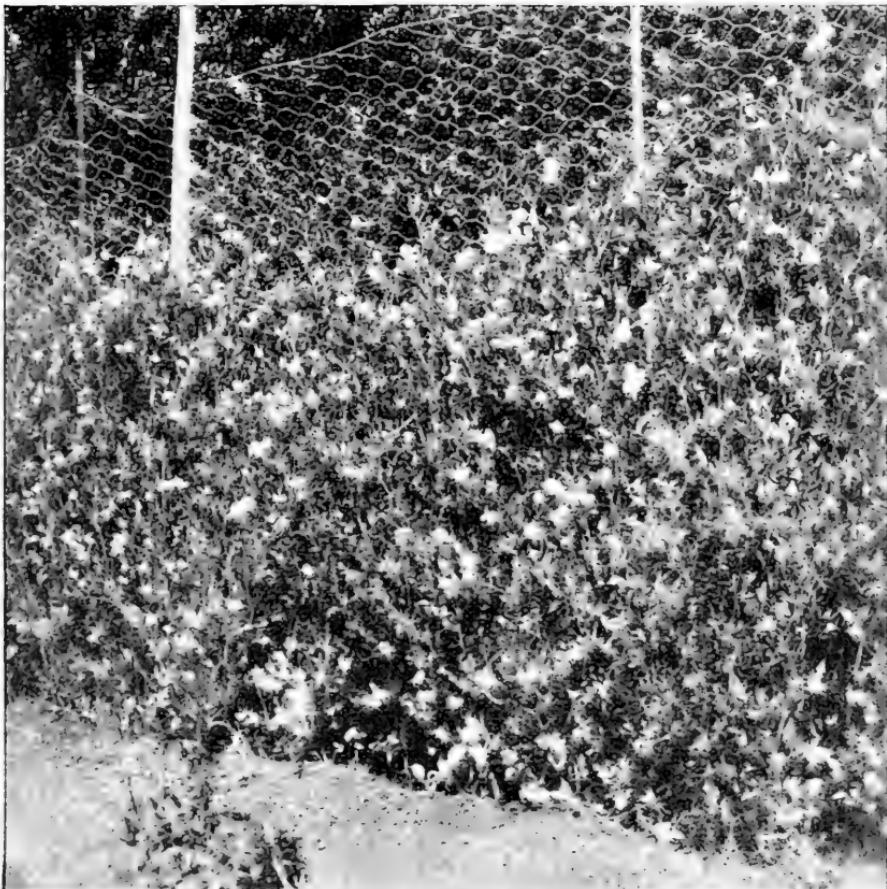
erable, but in many places this is not procurable and the ordinary chicken netting, or fence, is used instead. Strong stakes at intervals not to exceed ten feet are used to support the netting. One advantage of wire netting is that if stakes six feet high are used, a forty-two- or forty-eight-inch strip of netting may be placed in position, and, if the season or soil is favorable and the peas grow above this, a narrow strip of netting may be added or a string or wire stretched from stake to stake over the row. A well-galvanized netting can be used repeatedly for several years, and will last longer if taken off in the fall and stored.

String.—Another method is to construct a support of wire and string, or of string alone. The ingenious grower can construct all sorts of fanciful designs with wire and string on posts set not over ten feet apart. Sometimes a wooden strip is nailed horizontally at the top and bottom, but often a wire is used instead. From bottom to top, between these horizontal strips or wires, a homemade network can be made. When the peas are grown in double drills, the construction described above is made on each side in box-like form.

When sweet peas are grown in single drills especially on a considerable scale, the best and cheapest support is one made by placing stakes at intervals under ten feet, and winding strong cord around the row from stake to stake. The strings are placed six to eight inches apart, or closer if necessary. If the stakes are too far apart — ten feet or more — the string will stretch after becoming wet or even damp, and the plants will fall over. If appearance is not an object anything will serve for stakes, as tailings from the mills, poles, and the like. When neat stakes are driven in the row this method is very good in the garden as the vines cling to the string better than to wire netting, which becomes hot; also, the supports when string is used may be made as tall as needful for the peas. Thus there are only the tops of stakes showing above a row of short vines, in place of a row of uncovered netting. At the end of the season, if the stakes are worthless the whole support, as well as the sticks, can be burned.

Sweet peas are sometimes grown in clumps and must be supported. Here again sticks are often favored, especially where the plants occupy a circle six or more feet in circumference. Wire netting cut in suitable lengths may be made into cylinders for clumps of any size.

Other methods.—Henry Eckford advertises a sweet pea support consisting of four stakes, each in two pieces three feet long. These are placed ninety degrees apart around a circle and three-foot netting is stretched around them. When the peas reach the top, if greater height is needed the upper half of each stake is fitted by means of a mortise into the top of the one already driven and another strip of netting is put on.



Sweet peas on wire netting



Sweet peas grown in clumps

An English seedsman advertises sweet pea ladders for use in training the vines in garden decoration. The ladders are made six feet long and six inches wide. They are used perpendicularly, the tops being fastened to a horizontal wire. Two rows are supported by leaning the tops together and fastening them to an overhead horizontal wire. Plants grown in circles may be brought together in the center at the top, where the ladders are fastened to a center stake. Sweet pea arches are sometimes made. These, of course, should never be over six feet high or they would seldom be covered.

Now the ladders can be easily made with two No. 10 galvanized wires, rose stakes of the proper length, and some smaller wire for the rungs or cross wires. The arches can also be made complete, if desired, by merely making the ladder long enough and bending it into the form of an arch.

Cultivation

Tillage, watering, and mulching.—Frequent cultivation should be the rule in growing sweet peas. A very liberal use of the hoe or the cultivator in maintaining a loose, shallow surface mulch is imperative for success. Proper preparation of the soil, coupled with such treatment, will do much to obviate the necessity of watering.

Watering should not be begun until it is absolutely necessary in order to prevent the plants from suffering. When necessary the applications should be thorough, and in very dry periods at least two or three times a week.

A mulch of thoroughly rotted manure around the plants will alone lessen the effects of drought, and will also prevent too rapid loss of water when it is applied.

Dispoddng.—In order to have fine flowers and a long succession of bloom, it is infinitely more necessary to keep the seed pods rigorously picked off than it is to cultivate, mulch, or water. The latter operations go for naught unless the pods are picked off. The writer thoroughly believes that the importance of watering has been overemphasized and that too many amateurs prefer to use the hose rather than to pick pods; then they assert that the sweet pea is not what it used to be, that it has lost constitution, and the like. Of course, the more highly developed the variety, the less certain it is to bear up under neglect. There were on the trial grounds at this station in 1910 some of the oldest varieties, introduced from 1865 to 1890, then the latest hooded and grandifloras, and finally the waved type. Although no pods were picked from the first two types after July 20, there was a noticeable difference in the flowering habit. The old varieties were continuously blooming profusely, while the second class were sometimes completely destitute of flowers.

The same holds true with regard to length of stem. Some plants of Countess Spencer were treated likewise in order to note the effect, and for them the season was over early in August.

The lesson is that if the grower does not intend to comply with the requirements of the improved types, it is better to grow Butterfly, Captain Clarke, Peach Blossom, and other small-flowered, precocious varieties.

Fertilizers.—After sweet peas are in full flower, fertilizers may be applied. The best and safest fertilizer to use is liquid manure, diluted to the color of weak tea and applied once a week. It is often advantageous to alternate this with sulfate of ammonia or nitrate of soda at the rate of one ounce to six gallons of water. The plant responds better usually to phosphorus than to nitrogen, and even potash is often beneficial. Nitrate of potash and phosphate of potash dissolved at the same rate as the above-named fertilizers, is of the proper strength to apply.

Summary

The following quotation from George Stanton is a concise summary of sweet pea culture:

“Sweet Pea Culture, condensed.—12 words. Trench deeply; manure liberally; plant thinly; stake quickly; water freely; dispod promptly.”

INSECTS AND DISEASES

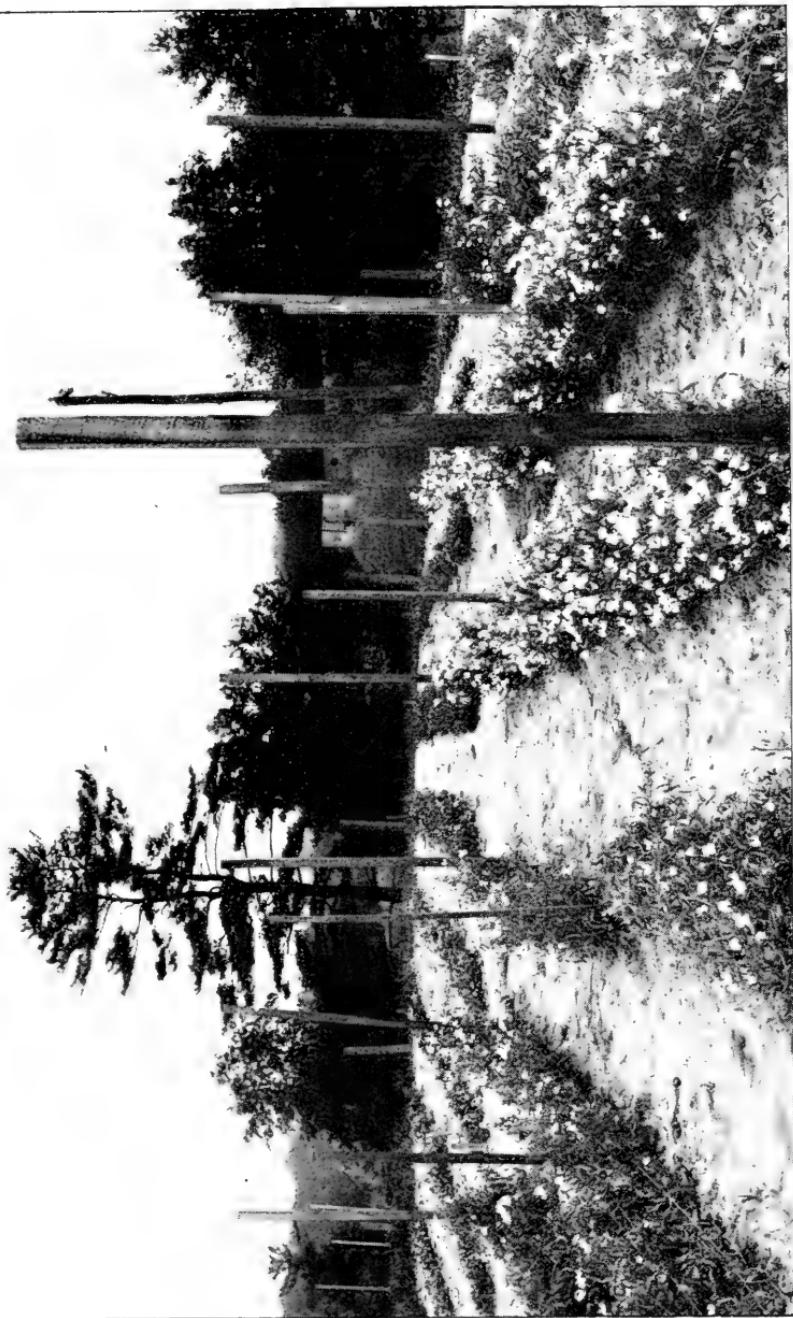
Insects

The most troublesome insects that attack sweet peas in the United States are the red spider and the green plant louse.

The red spiders attack plants during hot, dry periods, when they are to be found on the underside of the leaves. Usually they are not noticed until they have become sufficiently abundant to cause considerable damage. The experienced grower recognizes the favorable conditions for this insect and begins syringing the plants in the evening, applying the water with hose or spray pump so as to wet the lower surface of all the leaves. This treatment will prevent serious attacks of the red spider.

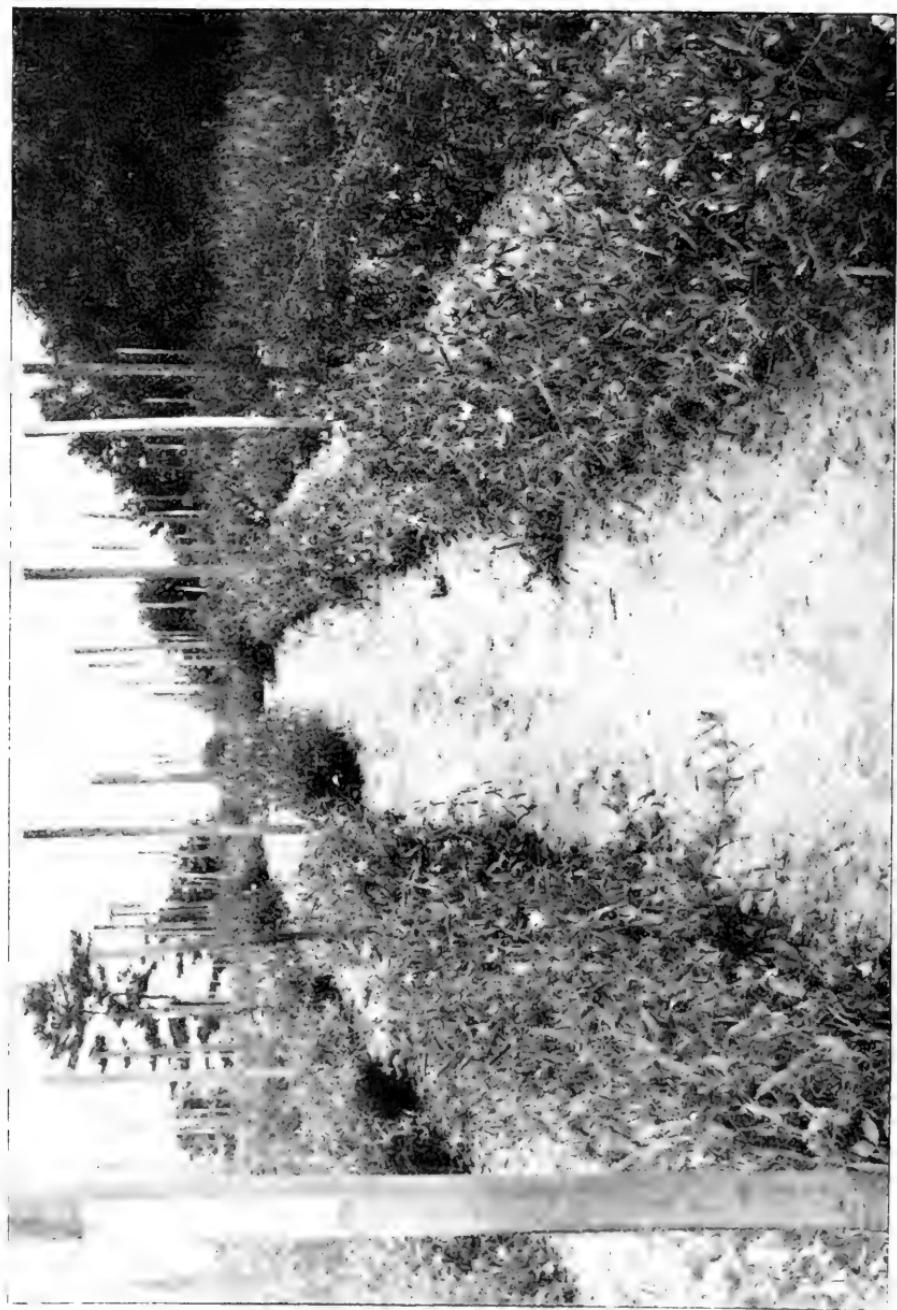
The green fly, or green plant louse, while often present under other climatic conditions, causes greater injury during weather favorable to the red spider than at other times. This insect may be killed by the use of tobacco extracts, dilute kerosene emulsion, or soap solution. Dusting the plants with tobacco is sometimes practiced.

Nematodes, or eelworms, do not attack sweet peas planted outdoors unless infested soil from the greenhouse is used around the plants. When sowing seeds in pots under glass, the proper soil is that which has been sterilized or thoroughly frozen.



Pods removed

Pods not removed



Shasta, August 23, 1910. Poda allowed to develop



White Spencer sweet peas, August 23, 1910, showing effect of pod removal

The cutworm.—In some seasons the cutworm is very destructive. The preparation of the soil in autumn, with the winter freezing, tends to eliminate this pest. The use of trap plants, such as lettuce, sown alongside of sweet pea rows has been suggested. Poisoned baits can sometimes be used, but not so safely, so far as other animal life is concerned, as in the greenhouse. The larva should be hunted down in its hiding place and destroyed. An application of soot, air-slaked lime, or tobacco dust has some value as a repellent.

Diseases

Powdery mildew.—Among the fungous diseases that attack sweet peas, the powdery mildew (*Erysiphe Polygoni* DC.) is often found late in the season, when the plants are almost through blooming. Sometimes the disease appears earlier. In 1910 it appeared in August and proved very serious on some varieties. The stems, leaves, and other parts of the plant become covered with a white, powdery coating of the mycelium and summer spores. The disease may appear after a rain followed by very cool nights and hot days. Spraying with potassium sulfid, or dusting the plants with sulfur or with a mixture of lime and sulfur—two parts of the former to one of the latter—will control the disease.

Pea spot (*Ascophyta pisi*) is a parasitic fungus attacking sweet peas in England, and, while the writer does not know of its occurrence on sweet peas in this country, the fact that it is known to attack garden peas here is sufficient indication of danger. The disease causes round or angular spots on the leaves and pods. The spots are one fourth inch or less in diameter, usually with a narrow, but distinct, purple border. The use of potassium sulfid or dilute bordeaux mixture is recommended.

Other diseases attacking sweet peas in England are pea blight (*Peronospora trifolionum*), root rot (*Thielavia basicola*), and streak (apparently a physiological trouble).

EXHIBITING SWEET PEAS

The foundation for success in raising sweet peas for exhibition is laid the previous autumn in the thorough preparation of the soil, followed by a careful selection of varieties, thin planting, and very liberal culture. In order that good flowers may be obtained for exhibition, it is best to remove all flowers about a week before the exhibition date, and to allow only the spikes with the longest stems to develop. The size of the flowers may be increased at this time by the use of ammonia or nitrate of soda.

All varieties subject to scorch or scald should be shaded with cheese-cloth or tiffany. If such varieties are planted together the shading may be more easily accomplished. The varieties having orange in their color-

ation—that is, Henry Eckford, St. George, and Helen Lewis—the salmon varieties, and possibly some of the scarlets and blues, should be shaded for four to six days previous to the time the flowers will be needed. The shade should be so arranged that it can be removed at night.

The sweet peas having been well grown, with stems twelve to fifteen inches long, the next consideration is the cutting of the flowers; for it is one thing to grow good flowers, and quite another, but equally difficult, to exhibit successfully.

Sweet pea flowers, especially for exhibition, should be cut while dry, preferably in the morning or evening. The proper stage of development will depend on the number of hours that must elapse before the judge can pass upon the exhibit. Flowers cut the day before exhibiting should be taken with the lower flowers open and the top one in bud. Those with four flowers on a spike may be taken with the two lower flowers open, the third flower opening, and the topmost one in the bud. The flowers should be placed immediately in cool, hard water and left in a cool, dark room or cellar until they are packed. Here they are left until the latest moment consistent with their timely arrival at the exhibition hall, not more than six or seven hours if possible.

When packing, the stems should be squeezed in order to remove surplus water and then wrapped in a strip of oiled paper. Great care should be exercised not to get water on the flowers. Each bunch should be wrapped in tissue paper and the bunches packed firmly, but not so tightly as to crush the flowers.

Everything possible should be done to insure the prompt arrival of the flowers at the exhibition hall, when they should be unpacked without delay. The flowers should be loosely arranged so that they may resume their natural form after the journey.

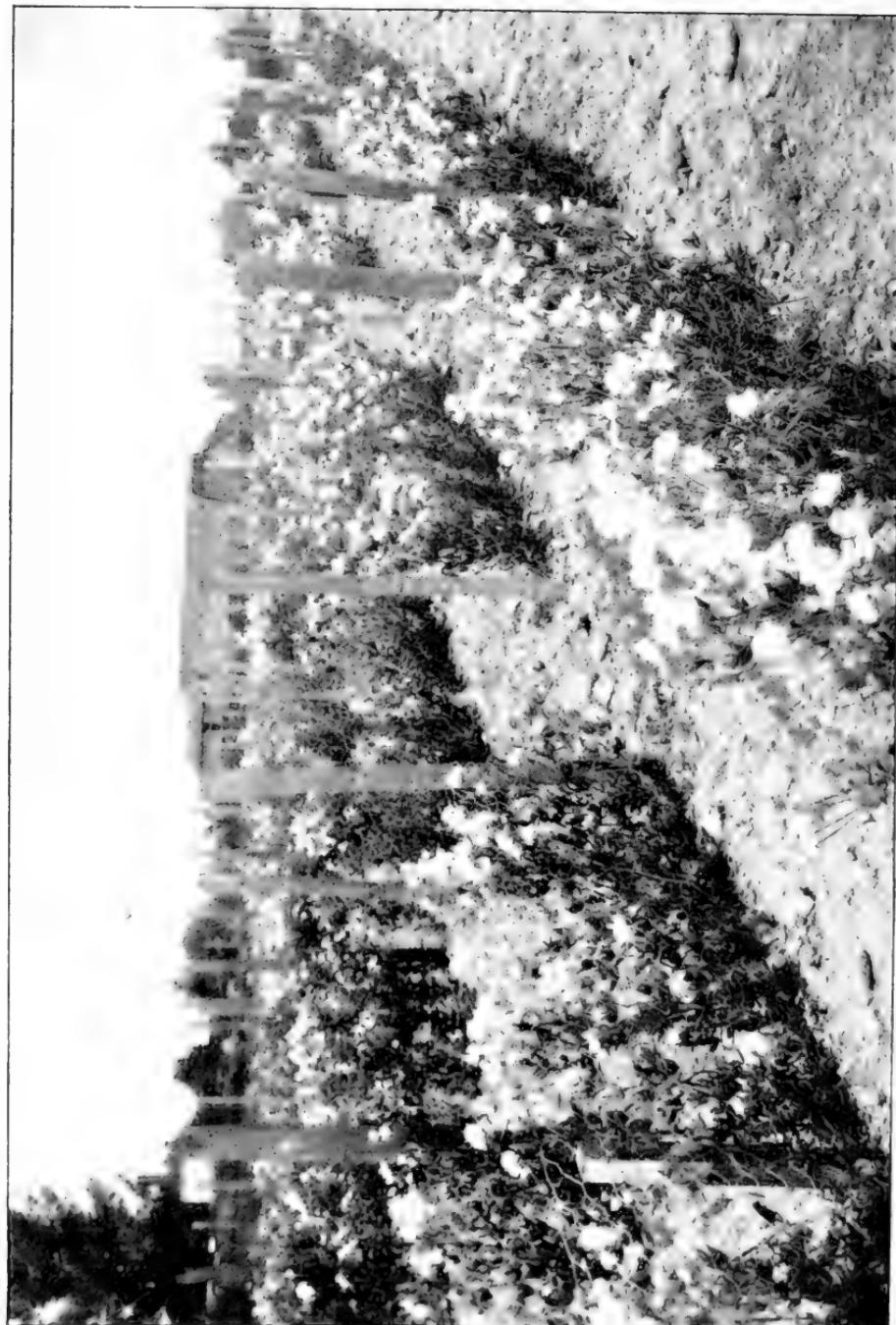
The flowers having been put in water, the work of arranging the exhibition vases should begin. George W. Kerr, an experienced exhibitor, gives the following on the arrangement of the flowers:

"In staging the flowers never crowd them. Let every flower 'speak for itself.' Twenty sprays make a nice vase, and the best method of arranging them is to start by putting some grass (cut two inches long) in the mouth of the vase, as this helps to keep the stems in position. Each stem must be put in separately. Let every flower be seen as far as possible and all face one way, with the exception of such varieties as have the back of the standards tinted in coloring other than the ground color of the flower, when the position of such might be judiciously varied. One or two pieces of foliage—a little Gysophila—or light grass, such as *Agrostis neublosa*, might with advantage be used. But this should not be overdone, and only if the rules allow of it.

"In staging a collection of twelve varieties, they should be stood in three rows, the back rows being tiered eight or nine inches above the other, and arrange the colors so that they do not clash. Even if the show schedule does not ask for it, name each variety with a neat card placed at the base of each vase."

Two very important points for the exhibitor to observe are: (1) follow the rules as to the number of stems per vase and foliage allowed; (2) see to it that the flowers are true to name. Varieties of distinct colors should be used and those that are very nearly like others in the exhibit excluded. Finally, in placing the vases, it is important not to lose sight of the fact that a good color scheme is a great aid to success.





The novel-kao trials 101

CONTENTS

	PAGE
Sweet-pea tests at Ithaca	217
Outdoor tests	219
Successive fall plantings	219
Successive spring plantings	220
Variety tests	221
Classification of varieties	224
Methods of description	225
Descriptions of varieties	229
Open-form varieties	229
Bicolor (Blanche Ferry group)	229
Bicolor (Miscellaneous group)	231
Blue and purple shades (Bright blue)	232
Blush	233
Carmine and rose (Carmine group)	235
Carmine and rose (Rose group)	236
Cream-pink	237
Crimson and scarlet (Crimson group)	238
Crimson and scarlet (Scarlet group)	239
Fancy	240
Lavender	240
Magenta-rose	241
Marbled	241
Maroon shades (Claret group)	241
Maroon shades (Maroon group)	242
Maroon shades (Maroon and violet group)	243
Mauve	244
Orange shades (Orange-pink group)	245
Orange shades (Orange-scarlet group)	245
Picotee edged (Lavender and mauve group)	246
Pink	247
Salmon shades	248
Striped and flaked (Orange-rose group)	249
Striped and flaked (Pink-on-primrose group)	249
Striped and flaked (Purple and blue group)	249
Striped red and rose (Crimson-on-white group)	250
Striped red and rose (Pink-on-white group)	251
White	252
Yellow shades	254
Hooded varieties	255
Bicolor	255
Blue and purple shades (Bright blue group)	256
Blue and purple shades (Purple standard, blue wings)	257
Blue and purple shades (Violet and indigo group)	258
Blush	259
Carmine and rose (Carmine group)	260
Carmine and rose (Rose group)	261
Cerise	262
Cream-pink	263
Crimson and scarlet (Crimson group)	264
Crimson and scarlet (Scarlet group)	266
Dark shades (Maroon group)	266
Dark shades (Maroon and bronze group)	267
Dark shades (Maroon and violet group)	268
Fancy	270

	PAGE
Lavender.....	271
Magenta-rose.....	273
Marbled.....	274
Mauve.....	275
Orange shades.....	276
Picotee edged (Lavender and blue group).....	277
Picotee edged (Pink group).....	279
Pink.....	280
Striped and flaked (Chocolate stripes).....	281
Striped and flaked (Mauve or blue).....	281
Striped and flaked (Red and rose on primrose ground).....	282
Striped and flaked (Red and rose on white ground).....	283
White.....	285
Yellow shades.....	286
Extreme hooded varieties.....	288
Snapdragon.....	288
Waved varieties.....	290
Bicolor.....	290
Blue.....	291
Blush.....	293
Carmine.....	295
Cerise.....	296
Cream, buff, and ivory.....	297
Cream-pink (deep).....	301
Cream-pink (pale).....	303
Crimson.....	306
Fancy.....	309
Lavender.....	310
Magenta.....	316
Marbled.....	317
Maroon.....	317
Maroon-purple.....	320
Maroon-red.....	322
Mauve.....	322
Orange-pink.....	326
Orange-scarlet.....	329
Picotee edged (Cream ground).....	331
Picotee edged (White ground).....	332
Pink.....	333
Pink (Pale pink group).....	336
Rose.....	337
Salmon shades.....	338
Scarlet.....	339
Striped and flaked (Chocolate on gray ground).....	343
Striped and flaked (Orange-scarlet stripes).....	343
Striped and flaked (Pink on primrose ground).....	344
Striped and flaked (Purple and blue).....	345
Striped and flaked (Red on white ground).....	347
Striped and flaked (Rose on primrose ground).....	349
White.....	349
The best varieties of sweet peas.....	352
Waved varieties.....	352
Varieties of open and hooded forms.....	352
Early-flowering varieties.....	353
Market varieties.....	353
Index to varieties.....	354

SWEET-PEA STUDIES—IV

CLASSIFICATION OF GARDEN VARIETIES OF THE SWEET PEA

ALVIN C. BEAL

(Received for publication January 3, 1914)

SWEET-PEA TESTS AT ITHACA

The great epoch in the growing of sweet peas in America began with the introduction of the Eckford varieties in 1886, and received impetus from the introduction of the American variety Blanche Ferry in 1889. About this time it was discovered that, owing to climatic conditions, California was adapted to the production of large quantities of sweet-pea seed. This made it possible to meet the heavy demand that arose during the last decade of the nineteenth century, when sweet peas were unprecedentedly popular. At that period sweet-pea exhibitions were held, and flowers were grown in almost every garden. No other annual flower, to the writer's knowledge, has ever approached the sweet pea in the magnitude of its growth in popular interest.

Then came a wane for a few years, apparently due to the cultural methods employed and to the appearance of diseases. But the flower is again coming into its own. In the meantime the waved type has been developed. In the closing days of Mr. Eckford's busy life he saw the awakening interest in sweet peas on the part of the English people. The introduction of the variety Countess Spencer in 1904 raised this interest to fever heat, and a national sweet-pea society — which is now one of the largest horticultural associations in the world, numbering over one thousand subscribers — was organized in England.

Many growers have undertaken the work of further improving this flower, and, due to this and to the sportive tendencies of the waved type of sweet peas, the number of varieties has increased at a rate hitherto undreamed of. In the contest for novelties many growers have found the same sports, have named them, and have sent them out, so that we have more than one name for the same variety. It appears also that some growers have been in too great a hurry to send out novelties before assuring themselves that their varieties were fixed. Sometimes a seedsman thought he had a fixed stock, only to find, after having introduced it, that it varied wherever grown. The novelties for 1911 include not less than eighty-five varieties. For several years past the offerings have exceeded fifty varieties a year, so that now there are almost a thousand variety names of sweet peas.

With the view of furthering interest in the sweet pea as a flower for the masses, the American Sweet Pea Society, at its inception in July, 1909, decided to establish trial grounds for the elimination of synonyms and the testing of new varieties. The trial grounds were established at Cornell University, through a cooperative arrangement between the Department of Horticulture of the New York State College of Agriculture and the society. The latter was to supply the seed, and the former was to conduct the tests in conjunction with a committee on nomenclature appointed by the society. In order to enlist the largest number of growers in the work of the trial grounds each year, a circular letter was sent to every firm offering new varieties of sweet peas. The growers named below have sent varieties for trial:

Great Britain: Aldersey & Marsden Jones, Tilston, Malpas, Cheshire; W. E. Alsen, Denmead, Waterlooville, Hants; R. H. Bath, Wisbech; S. Bide & Son, Farnham, Surrey; James Box, Haywards Heath, Sussex; William Deal and E. J. Deal, Kelvedon; Silas Cole, Northampton; T. H. Dipnall, Hadleigh, Suffolk; Dobbie & Co., Edinburgh, Scotland; Miss Hilda Hemus, Upton-on-Severn; Kelway & Son, Langport, Somersetshire; E. W. King & Co., Coggeshall, Essex; Alexander Malcolm, Duns, Scotland; S. Miller, Newport, Isle of Wight; G. Stark & Son, Great Ryburgh, Norfolk; Sutton & Sons, Reading; Robert Sydenham, Birmingham; W. J. Unwin, Histon, Cambridgeshire; Watkins & Simpson, London.

United States: A. T. Boddington, 342 West Fourteenth Street, New York; W. Atlee Burpee & Co., North Fifth Street, Philadelphia; Peter Henderson & Co., 35 Cortlandt Street, New York; C. C. Morse & Co., 48-56 Jackson Street, San Francisco; W. W. Rawson & Co. (now Fottler, Fiske, Rawson Company), Boston; Waldo Rohnert, Gilroy, California; Vaughan's Seed Store, 31-33 West Randolph Street, Chicago; James Vick's Sons, Rochester, New York; Ant. C. Zvolanek, Bound Brook, New Jersey.

From this list it will be seen that most of the really progressive growers who are intensely interested in the permanent development of sweet-pea culture have assisted in the work. To these and to all who have assisted in the work the American Sweet Pea Society and the New York State College of Agriculture are indebted. It is hoped that the cordial support hitherto given to the work may be continued for the further advancement of the sweet pea in popular favor.

On receipt of the seeds a list of all the varieties, with the date of their receipt, was made. A card index was also prepared, so that any arrangement of the varieties could be made. On these cards the trial number was entered so that the variety could be quickly found in the field.

OUTDOOR TESTS

In addition to the purposes of the trials before mentioned, it was thought desirable to make some cultural tests as to the effect of the time, depth, and thickness of planting on the resultant crop. With this in view, plantings were made in the fall and in the spring.

Successive fall plantings

Many of the dealers sent in seeds promptly, and in order to test the feasibility of growing sweet peas successfully from fall planting the trials were begun very soon after the writer entered upon the work. Plantings made at this station at intervals of ten days, from October 20 to November 30, 1909, gave the following results:

TABLE I. RESULTS FROM FALL PLANTINGS

Variety	Date of planting (1909)	Condition of soil	Number of seeds sown	Number of seeds that germinated	First bloom (1910)
Mont Blanc....	October 20	Excellent.....	120	22	June 6
	October 30	Slightly frozen.....	120	14	June 6
	November 10	Excellent.....	120	58	June 6
	November 20	Excellent.....	120	20	June 15
	November 30	Very wet and cold...	120	5	June 20
King Edward VII.....	October 20	Excellent	120	69	June 19
	October 30	Slightly frozen.....	120	83	June 19
	November 10	Excellent	120	99	June 19
	November 20	Excellent	120	45	June 19
	November 30	Very wet and cold ..	120	6	June 19
Countess Spencer....	October 20	Excellent	120	97	June 20
	October 30	Slightly frozen.....	120	92	June 20
	November 10	Excellent	120	87	June 20
	November 20	Excellent	120	77	June 20
	November 30	Very wet and cold ..	120	24	June 20

In all these trials there was no top growth, but some plants of the first two plantings were just piercing the surface, when winter set in. The third planting germinated, but the last two did not appear above the surface of the ground until the following April (1910), when they appeared on the 4th and the 15th, respectively.

The results indicate that the planting should be delayed as late as is practicable, but not so late that the seed must be sown in a cold, wet, heavy soil.

Successive spring plantings

The spring plantings were not made at uniformly regular intervals, as were the fall plantings, because of the cold, wet weather of April, 1910, and the heavy rains of May. However, the results are comparable, for the same varieties, from the same consignment of seed, used in the fall plantings were used in these tests.

TABLE 2. RESULTS FROM SPRING PLANTINGS

Variety	Date of planting	Number of seeds sown	Number of seeds that germinated	Date of germination	First bloom
Mont Blanc.....	March 12	120	18	April 15	June 18
	March 22	120	49	April 18	June 20
	April 4	120	92	April 20	June 21
	April 16	120	90	April 30	June 27
	April 27	120	101	May 10	June 30
	May 7	150	141	May 16	July 5
	May 18	125	118	May 30	July 12
	June 1	175	146	June 16	August 18
King Edward VII...	March 12	120	81	April 15	June 25
	March 22	120	103	April 20	June 27
	April 4	120	104	April 27	July 2
	April 16	120	102	April 30	July 5
	April 27	120	110	May 10	July 6
	May 7	120	108	May 18	July 15
	May 18	125	114	May 30	June 30
	June 1	150	133	June 16	August 26
Countess Spencer...	March 12	120	111	April 15	June 30
	March 22	120	117	April 20	July 1
	April 4	120	110	April 27	July 2
	April 16	120	111	May 3	July 4
	April 27	120	110	May 10	July 7
	May 7	120	118	May 16	July 15
	May 18	120	115	May 30	July 20
	June 1	150	131	June 16	August 26

It is very apparent, in view of the results from the germination of the variety Mont Blanc, that white-seeded sweet peas should not be sown until the ground has thoroughly thawed.

The most significant fact in connection with these trials was the manner in which the dry, hot weather hurried forward the April plantings so that they came into bloom together.

The height of the plants varied directly with the time of planting, the first being the tallest. The amount of bloom on all spring plantings

after the first three was much reduced and the length of the stems was considerably less. However, the late April and early May plantings produced a number of blooms, and with more rain and with fertilizers the results would doubtless have been fairly satisfactory.

Due to the dry, hot weather, the June planting did not flower until August, after a very feeble existence. When the mildew appeared in the latter part of August these plants were quickly destroyed, as the disease caught them at the time when they were beginning more rapid growth.

The results of 1910 indicate that plantings of garden varieties made after May 10 are really not worth while.

VARIETY TESTS

Each year a different area has been selected for growing the plants. Soil as nearly uniform as possible has been chosen. The land is plowed in the autumn, and furrows are opened with the plow so that barnyard manure can be placed under the rows preparatory to spring planting. When the furrows are closed, if a slight ridge is left over the row it can be raked down as soon as the surface dries in the spring, thus facilitating early planting. The varieties under test in 1910, 1911, and 1912 were sown in the open ground as early as possible. In 1913 all the varieties were sown in pots in March and were planted later in the field. The results from the latter method were so much better that that method will be continued.

In the first year the rows were 20 feet long and 4 feet apart. Four hundred and five of these rows were planted, giving a total length of row of 8100 feet, or a little over one and one half mile. The total length of row grown in 1911 was 4500 feet, in 1912 it was 3000 feet, and in 1913 it was about 2000 feet. In the first two years a large number of the older varieties were grown, but in the last two years only the leading varieties of the older types were grown. The work has now reached the stage when only one variety of the older type in each color section will be grown for comparison.

A record was made of the number of seeds planted of each variety, and later the number that germinated was recorded. Of the standard varieties 120 seeds were usually planted in each row; with samples that appeared to be of poor quality, however, a good stand was assured by sowing more seeds. The question is sometimes asked whether old sweet-pea seed will grow. An opportunity to test this was afforded by seeds sent in by Mr. Morse for study of the obsolete types. This seed was saved some years before, when variety tests were being made, and the following results shed some light on the question:

TABLE 3. GERMINATION OF OLD SWEET-PEA SEED IN 1910
(The asterisk denotes white-seeded varieties)

Variety	Crop of	Number planted on April 15	Number germinated	Date of germination
Black Brown Stripe	1904	125	19	May 9
Purple Brown Stripe	1902	125	40	May 8
Striped Celestial	1902	125	92	May 7
Columbia	1902	125	51	May 7
Juanita	1903	150	42	May 7
Daybreak	1904	150	75	May 7
Gaiety	1901	125	40	May 7
Wawona	1903	125	77	May 7
Duchess of York	1904	125	103	May 6
Splendour	1903	125	82	May 10
Large Yellow Red	1902	125	75	May 10
Large Yellow Open Form*	1901	175	3	May 10
(Many seeds of this variety are split)				
Fairy Queen	1901	125	61	May 10
Alice Eckford	1904	175	104	May 6
Lady Beaconsfield	1903	125	78	May 8
Countess of Shrewsbury	1902	125	47	May 12
Delight	1903	125	98	May 8
Lemon Queen	1903	133	53	May 10
Peach Blossom	1904	125	105	May 4
Crown Princess of Prussia	1903	175	31	May 10
Ignea	1903	125	85	May 4
Carmine Invincible	1904	150	127	May 4
Brilliant	1904	125	112	May 4
Cardinal	1904	125	107	May 4
Bronze King	1901	125	14	May 6
Empress of India	1904	152	90	May 6
Emily Lynch	1904	125	115	May 4
Coronet	1902	125	15	May 4
Orange Prince	1903	125	46	May 12
Meteor	1902	150	52	May 10
Alba Magnifica*	1903	175	50	May 4
Queen of England*	1903	150	62	May 4
Dorothy Vick	1903	125	99	May 10
Princess Victoria	1903	125	87	May 6
Rising Sun	1902	125	46	May 14
Duchess of Edinburgh	1903	125	57	May 10
Queen of the Isles	1904	125	99	May 4
Adonis	1904	150	126	May 4
Miss Hunt	1904	125	102	May 4
Novelty	1903	125	62	May 8
Fluted Primrose*	1901	150	1	May 14
Ovid	1904	125	114	May 4
King Edward VII	1909	90	85	May 4
Countess Spencer	1909	90	83	May 5
Oddity	1904	125	115	May 4
Inconstancy*	1902	175	6	May 12
Golden Gleam*	1904	150	101	May 4
Mont Blanc*	1909	175	146	May 4

It is apparent that the white-seeded varieties lose their vitality in greater degree than do the black-seeded varieties of the same year's crop. Nearly all varieties from the 1904 crop gave as good results as were obtained, in general, from the 1909 crop.

Only a small number of seeds were received of the new varieties and of the novelties. The smallest number of seeds of any variety was five, but in several cases only eight or ten were received. When a few seeds of a variety were to be sown it was arranged to sow one or two other varieties in the same row, leaving a space of eighteen inches between two separate varieties. In the past season, 1913, the length of row was reduced to ten feet because of the greater ease of supporting the plants and because in many cases only five to ten seeds were received. If an equal number of plants were obtained, one half or all of a ten-foot row could be planted to a variety. A crosswalk six feet wide separated each section. This allowed for spraying the plants when necessary.

The varieties were arranged according to color, for the purpose of easy comparison in the determination of synonyms and in the estimation of the value of varieties, relative productiveness, and other points. The arrangement insured the varieties' being sown or planted at the same time, on as nearly as possible the same soil, and with the same exposure.

The question of a suitable support was given considerable thought. After an investigation of the various forms of wire netting suitable for the purpose, it was found that its expense was too great to allow of its use with this area of sweet peas. The method adopted was to place a seven-foot stake at the end of each row and use heavy twine for supporting the plants. The twine was stretched along one side of the row and back on the other, enclosing the plants. While this method was reasonably economical it was not very satisfactory, for the reason that the expansion and contraction of the twine prevented it from supporting the plants properly. The slackened strings allowed the wind to topple the plants alternately back and forth. It was found that this could be overcome by placing the supports closer together. In 1913 the use of the string support alone was abandoned, and a strip of wire netting twenty-four inches wide was used near the ground. It was found that this provided a better support for the young plants, for if they were torn loose by the wind they could be tied up with raffia. As soon as the plants were well started, little difficulty was experienced in keeping them straight. The use of strings for supporting the tops of the plants has been found satisfactory, provided the plants do not reach a total height of more than four feet. If under garden conditions the plants grow taller than four feet, the width of the strip of netting should be correspondingly increased.

CLASSIFICATION OF VARIETIES

The rapidly increasing number of varieties of sweet peas offered since Mr. Eckford began the improvement of the flower has made it imperative that some method of classifying varieties should be adopted. In the autumn of 1896 the Sunset Seed and Plant Company issued a small work entitled "Sweet Pea Review," in which was proposed a classification of sweet peas based on form. Average specimens of the largest and most perfect standards of Eckford's introductions of 1896 and 1897 were selected, and, each being laid down naturally, with the front side uppermost, a circle was drawn around it just touching the extreme edges. Within each circle an outline drawing representing a certain type was made.

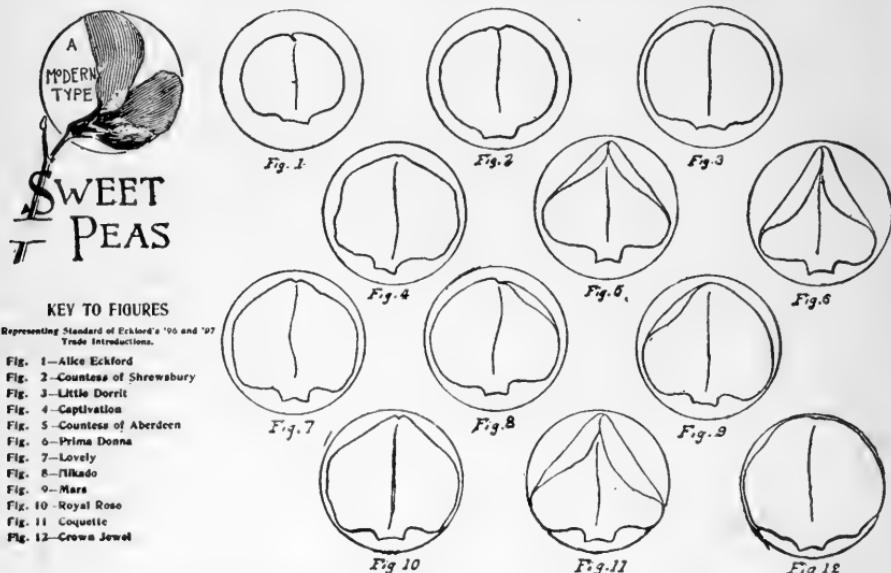


FIG. 24.—Classification of sweet peas, suggested by the Sunset Seed and Plant Company, San Francisco, California

The diameter of the circles was thirty-eight millimeters, or a trifle over one and one half inch, and represented the *grandiflora* size as this company understood it. A perfect type of flower is illustrated as one in which the farthest projections of the standard, wings, keel, and calyx exactly touch the thirty-eight-millimeter circle. The ninety varieties of sweet peas grown by the company were classified into twelve types.

This classification based on form has not been adopted by growers of sweet peas. The method was copyrighted, which possibly had something to do with the fact that it never became popular. A more important reason, no doubt, is the fact that the size, and also to some extent the form,

of sweet-pea flowers are dependent on the culture that they receive. Under a hot sun the various flowers on a plant assume different forms according to the length of time that the blossoms have been open. At the present time the system would not be very serviceable in describing varieties of the waved form, since the amount of the waving or the folding of the standard varies with the variety, the strain, or the stock, as well as with the cultural conditions.

Although varieties were rapidly multiplying, seedsmen continued to list the names alphabetically. Mr. Burpee, who catalogued one hundred and fifty varieties in 1899 — the most extensive collection offered up to that time by any seedsman, so far as the writer can learn — classified them in this manner.

METHODS OF DESCRIPTION

The Classification Committee appointed at the Bicentenary Celebration at London in 1900 adopted the following scheme of classification, based on color instead of on form:

Selfs: Flowers with one color only; to be classified as:

White Selfs	Blush Selfs	Yellow or Buff Selfs
Pink Selfs	Rose Selfs	Carmine Selfs
Purple and Maroon Selfs	Crimson Selfs	Lavender Selfs
Mauve Selfs	Blue Selfs	Salmon and Orange Selfs

Flakes: Flowers with a decided ground color, on which are flakes and stripes of another color; the color of the flakes to determine the class:

Red and Rose Flakes	Mauve Flakes
Maroon and Purple Flakes	Blue Flakes

Bicolors: Flowers with two colors, one found in the standard and the other in the wings; the color of the standard to determine the class:

Red and Rose Bicolors	Salmon and Orange Bicolors
-----------------------	----------------------------

Fancies: Flowers of several colors, and such as are not provided for in other divisions. The ground color to determine the class:

White Ground Fancies	Yellow or Buff Ground Fancies
----------------------	-------------------------------

Picotee Edge: Flowers of one or more colors, but having an edging of a distinct color or shade around the standard and the wings. No subdivision is as yet considered necessary.

The seedsmen soon began to list their varieties under the principal colors, but as a rule no classification was made as to form.

The Sweet Pea Annual for 1906 gives the following color classes: White, Crimson and Scarlet, Cerise, Rose and Carmine, Pink, Blush, Blue, Yellow

Shades, Orange, Lavender, Mauve, Violet and Purple, Magenta, Picotee Edged, Red Stripes, Blue Stripes, Bicolors, Fancies. This is substantially the classification that was used until 1911, except that the Cream Pink and the Marbled class were added.

The color classes for 1911 show that Crimson and Scarlet were separated, while the Orange class has been divided into Orange Pink, Orange Scarlet, and Salmon Shades. The Picotee Edged class is subdivided into Cream Grounds and White Grounds. A Lilac class has been added. There is a total of twenty-five classes.

During this period the National Sweet Pea Society of England listed the best varieties under each color class, including the best variety of the old type, which was indicated by an asterisk.

The Sweet Pea Annual for 1913 gives the following color classes: Bicolor; Blue; Blush; Carmine; Cerise; Cream, Buff, and Ivory; Cream-pink (Pale); Cream-pink (Deep); Crimson; Fancy; Lavender; Lilac; Magenta; Marbled and Watered; Maroon; Maroon Purple; Maroon Red; Mauve (Dark); Mauve (Pale); Orange-pink; Orange-scarlet; Picotee Edged (Cream Ground); Picotee Edged (White Ground); Pink (Deep); Pink (Pale); Rose; Salmon Shades; Scarlet; Striped and Flaked (Purple and Blue); Striped and Flaked (Chocolate on Gray Ground); Striped and Flaked (Red and Rose); White. A total of thirty-two classes.

When one considers the advance from a classification that comprised only White, Cream or Light Yellow, Light Blush, Light Pink, Deep Pink, Rose, Red and Scarlet, Shades of Orange and Salmon, Pink and White, Blue and White, Claret and Maroon, Striped and Variegated, Lavender and Light Blue, and Blue and Purple, one can appreciate the fact that the classification of sweet peas has undergone evolution. Moreover, this indicates more clearly than does anything else the marvelous development of the flower.

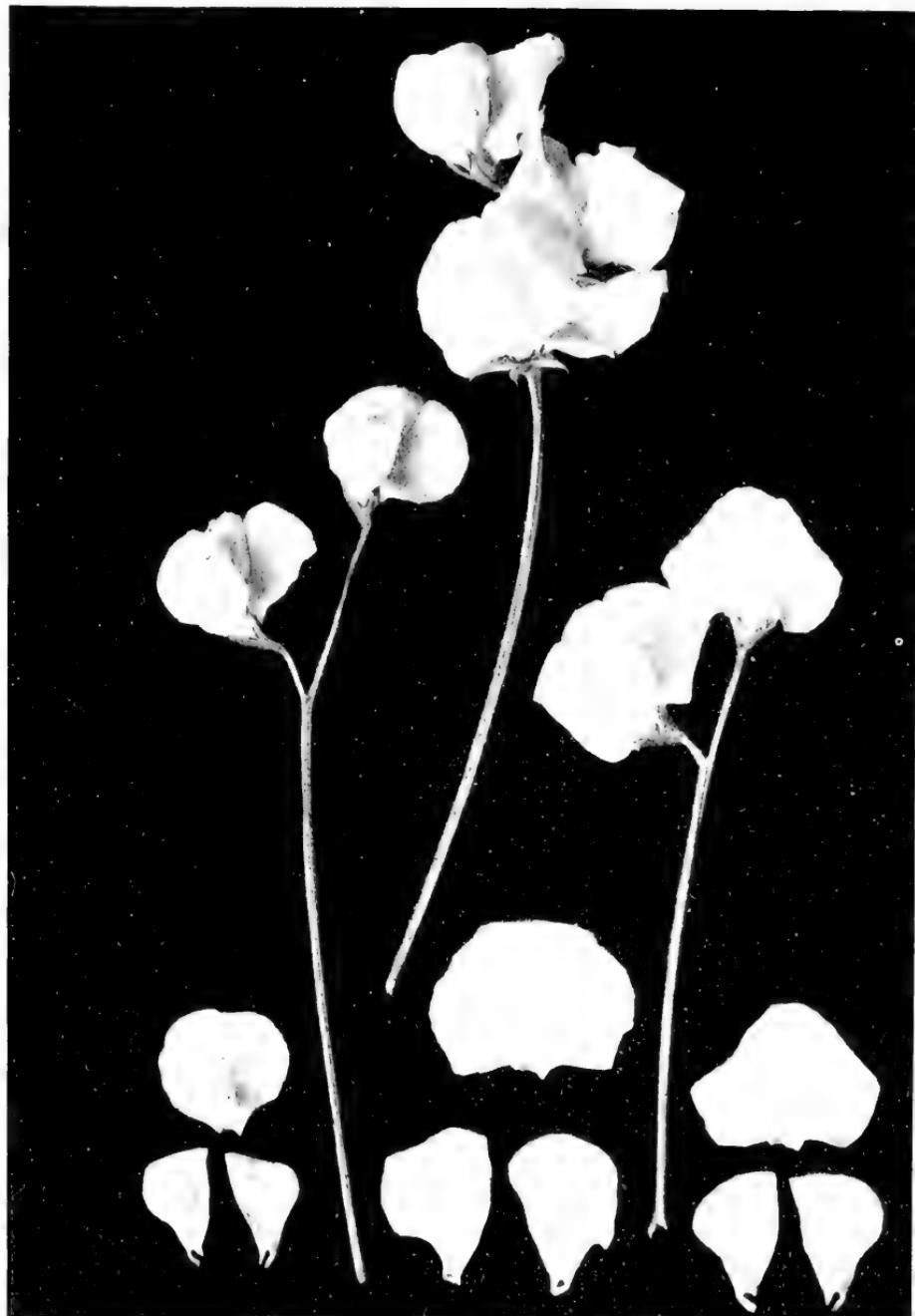
In the Field Notes on Sweet Peas, 1907, edited by L. L. Morse, it is stated that the most natural classification is according to color, and that most seedsmen recognize such an arrangement. Mr. Morse then calls attention to the fact that another classification, almost as important as that of color, is that of form, referring to the size and the shape of the standard. He classes the varieties as follows:

<i>Hooded form</i>	<i>Open form</i>
Large.....Aurora	Large.....Triumph
Medium...Countess of Radnor	Medium.....Blanche Ferry
Small.....Blushing Beauty	Small.....Crown Princess of Prussia

The Countess Spencer group, which was just coming in, was classified as "very large." This group has since been recognized universally as



Open Form — *Alka Magnifica*, *Shasta*, *Golden Rose*
Hooded Form — *Butterfly*, *Admiration*, *Dorothy Eckford*
Waved Form — *Elsie Herbert*, *Apple Blossom*, *Spencer*, *White Spencer*



Mrs. Sankey Spencer
Queen of England

Dorothy Eckford

distinct in form. The size of the varieties is of less importance at the present time, for the waved, or Spencer, sweet peas are usually of very large size, and if any of the older varieties are to persist in the trade they must be of the largest size. The varieties with medium-sized blooms are now obsolete, as were the small-flowered varieties of Morse's list.

The principal characters on which a classification of sweet peas may be based are habit of the plant, form of the flower, and color of the flower. In habit of plant, the dwarf, bush, winter-flowering, and garden types are recognized. In general there are two main groups, the dwarf forms and the tall forms, the latter including the winter-flowering and garden types. The form of the flower has been evolved from the reflexed form, through the open and the hooded, to the waved form. The open form with the flat standard may be classified into the notched and rounded types. There are various degrees of hooding, of which the extreme form is the snapdragon, now grown only as a curiosity. In like manner we find various degrees of waviness in the waved, or Spencer, form; these can be placed in groups according to the amount of waviness, being equal to, less than, or greater than, Countess Spencer under the same conditions. The writer proposes the following classification of sweet peas:

<i>Garden type</i>	<i>Winter-flowering type</i>	<i>Dwarf type (Cupid)</i>
Open form	Open form	
Hooded form	Hooded form	
Waved form	Waved form	

The dwarf type is not of sufficient importance to be subdivided, but it embraces varieties with flowers of both open and hooded form.

Under each form the varieties are classified by color, using the color classification of the English National Sweet Pea Society. So far as possible, the *Répertoire de Couleurs* was used in determining the color of all the varieties of sweet peas grown. In the description of each variety the relative size of the flower is recorded.

The descriptive blank shown on page 228 was prepared for recording the data on varieties. The plantings in the field were labeled by number only, and the corresponding number was placed under its heading on the card; so that in making the records it was not known who sent the variety under examination. The data on the upper part of the card were not entered until after the season was over. This practice was followed in order to keep the records free from the possibility of bias as to the estimate placed by others on a variety. The information given is therefore our own, except when it is specifically stated to be the opinion of another.

CORNELL VARIETY TEST OF SWEET PEAS

NAME	SYNONYMS	TYPE OF BLOOM	Open	Hooded	Waved	Trial No.
COLOR Class	Bicolor, Blue, Blush, Carmine, Cerise, Cream, Buff, and Ivory, Marbled Maroon, Maroon Purple, Maroon Red, Orange-Pink, Orange-Scarlet, Picotee Edge on white, Picotee Edge on cream, Deep Pink, Rose, Salmon Shades, Scarlet, Striped Blue, Striped Chocolate, Striped Red, White.					
COLOR Standard	Uniform Color No. Color shades No. to Ground Ground Flakes Picotee Edge Veins Fades from	Wings Uniform Color No. Shades No. to Ground Ground Flakes Picotee Edge Veins Fade from	standard	small medium	large	very large
SIZE	flower small medium large very large wings small medium large very large					
FORM	standard flat reflexed hooded slightly hooded slightly spreading drooping wings conceal keel partly open	hooded much waved (Spencer) waved slightly waved much				
SHAPE	standard notched sides notched top round pointed wings long short broad narrow	hooded much pointed shell narrow base				
SUBSTANCE	sunproof burrs	shy	medium	profuse	wet weather injures	
FRAGRANCE	none moderate much	BLOOMER	shy	medium	profuse	
SEASON	first bloom	USE	home	market	exhibition	
STEM	No. fls. varies to	Length	short medium long	Strength weak medium strong		
	Position of flowers	face variously	face one way	equidistant irregular close wide apart		
PLANT	dwarf bush medium tall very tall	Growth weak slender stout	stout	Vigor healthy	diseased mildew yellowing marbled	
Stock	pure mixed true to type	not true	true to name	not true	Leaflet narrow	broad pointed round
	light green dark green	Tendril colored	clinging	non-clinging		

DESCRIPTIONS OF VARIETIES

OPEN-FORM VARIETIES

Bicolor (Blanche Ferry group)

BLANCHE FERRY

Originated by _____.

Introduced by D. M. Ferry & Co., 1889.

Donated by A. T. Boddington, and W. Atlee Burpee & Co.

Description in brief — Medium size, red and white, extra early, open form, notched standard.

Description in detail — Color of standard scarlet 156 (3-4); wings lilac white 7 (4). Flower of medium size, open form; standard of medium size, open form, with notched top; wings long and narrow, concealing the keel. Flowers two to three, on short to medium stems. Very fragrant. Bloom profuse, lasting well on the plant. Sunproof. A garden or market variety. Plant of short, slender growth. Leaflets narrow, pointed, dark green. Seed black, large.

Comparison — Extra Early Blanche Ferry, Earliest of All, Reselected Extreme Early Earliest of All, are similar, but earlier. A difference of sixteen days has been noted in the earliness of the varieties of this group.

Remarks — The first and epoch-making variety. The introducer illustrated it with a color plate, the first sweet-pea novelty of American origin thus figured in an American catalogue. For history see Bulletin 320 of this experiment station, page 691, and Bulletin 319, page 625.

BLUSHING BRIDE

Originated by _____.

Introduced by Joseph Breck & Co., 1891.

Description in brief — A rose-and-white variety.

Comparison — "Resembles Blanche Ferry in color, but is larger." — Breck's catalogue, 1891.

Remarks — Said to be a sport of Painted Lady. Was grown for a time by Boston florists.

BRIDE OF NIAGARA

Originated by Mrs. O. H. Day.

Introduced by James Vick's Sons, 1896.

Description in brief — A double-flowered strain of Blanche Ferry.

Remarks — Interesting historically as the first double sweet pea. This variety was originated by Mrs. O. H. Day, Niagara Falls, New York, and was announced by Vick in 1896. The name was selected by ballot. The variety was introduced in 1896, when it was described as having a clear pink banner, and white wings and keel. The flowers often had two or three banners.

EARLIEST OF ALL

Originated by Thomas Gould.

Introduced by Burpee, 1898.

Donated by Boddington, Burpee.

Description in brief — Flower of medium size, red and white, open form, notched standard; an extra early variety.

Comparison — Color same as Blanche Ferry. Not so vigorous as Blanche Ferry in the field.

EXTRA EARLY BLANCHE FERRY*Originated by* —————*Introduced by Ferry, 1895.**Description in brief* — Flower of medium size, red and white, open form, notched standard; an extra early variety.*Comparison* — Similar to Blanche Ferry, but earlier. Blanche Ferry and Extra Early Blanche Ferry are more vigorous than Earliest of All.**FLORENCE FRASER***Originated by* —————*Introduced by J. C. Vaughan, 1904.**Description in brief* — Flower of medium size, red and white, open form.*Comparison* — Differs from Blanche Ferry in greater vigor of plant and longer-stemmed flowers.**LADY DALKEITH***Originated by* —————*Introduced by L. L. May & Co., 1894.**Description in brief* — "Red and white, very free flowering." — May's catalogue for 1894. Not listed in later catalogues.**LITTLE DORRIT***Originated by* Henry Eckford.*Introduced by Eckford, 1895.**Description in brief* — Red and white, open form.*Comparison* — Resembles Blanche Ferry, with possible exception of shape of the standard.**NELLIE JAMES***Originated by* —————*Introduced by R. & J. Farquhar, 1892.**Description in brief* — A pink-and-white variety.*Synonyms* — Painted Lady under another name.*Remarks* — Grown by Boston florists.**PAINTED LADY***Description in brief* — Standard rose, wings white tinged with pink.*Comparison* — Blanche Ferry was introduced as "Improved Painted Lady."*Synonyms* — Nellie Janes is the same as Painted Lady.*Remarks* — Catalogued in all old trade lists. Earliest mention by Philip Miller in Gardeners' Dictionary, 1731. Probably the same form as that described by Burmann as *Lathyrus Zeylanicus*, he supposing that it came from Ceylon. Appears to have been omitted in American catalogues since 1899, but in some English lists later than this.**RESELECTED EXTREME EARLY EARLIEST OF ALL***Originated by* Gould.*Introduced by Burpee, 1902.**Donated by* Burpee, Boddington.*Description in brief* — Flower of medium size, red and white, open form, notched standard, extra early.*Comparison* — Blanche Ferry, Extra Early Blanche Ferry, and Earliest of All are similar in color of flower and in habit of plant.

Bicolor (Miscellaneous group)**BEACON***Originated by* _____.*Introduced by* Robert Bolton, 1906.*Description in brief* — A medium to large, open-form variety, with cerise standard and creamy wings.*Comparison* — An improved Duke of York.**BLUE BELL***Originated by* _____.*Introduced by* May, 1894.*Description in brief* — Described in Bulletin 111 of this experiment station as follows:

" Flowers small. Standard convex, wedge-shaped. Color, standard pink, wings purple-rose. Bloom sparse."

Remarks — Catalogued for next five years after introduction.**BRONZE KING***Originated by* _____.*Introduced by* Haage & Schmidt.*Donated by* C. C. Morse & Co., for evolution studies.*Description in brief* — A small, open-form variety, with coppery pink standard and white wings.*Description in detail* — Color of standard violet-old rose 145 (1); wings creamy white 10 (1). Flowers small, open form; standard small, flat, stiff, with notched top; wings long and narrow. Burns badly. Plant of tall, strong growth.*Remarks* — Offered by Henderson in 1894.**BRONZE PRINCE***Originated by* Eckford.*Introduced by* Eckford (?), Bull, 1885.*Description in brief* — " Flowers large. Standard flat. Color, purple-red, the wings the more purple." — Bulletin 111 of this station.*Synonyms* — Light Blue and Purple is the same variety. Joanna Theresa is the same.*Remarks* — One of the first of the Eckford varieties, and one that remained in the trade for at least fifteen years. Mentioned in Gardeners' Chronicle [n. s., vol. 20 (1883), p. 264].**COUNTESS OF SHREWSBURY***Originated by* Eckford.*Introduced by* Eckford, 1896.*Donated by* Morse, for evolution studies.*Description in brief* — A small variety, with rosy standard and white wings.*Description in detail* — Color of standard violet-rose 154 (1), fading to lilac white 7 (4) at the edge; wings lilac white 7 (1). Flower small, open form; standard small, flat, sometimes reflexed, with apical notch; wings of medium size, upright, and pointed, concealing the keel. Flowers two to three, on medium stems. Fragrance questionable. Bloom moderately profuse, continuous. Standard fades and burns at the top.*Comparison* — Lady Beaconsfield is similar, but is on a primrose ground.**DUKE OF YORK***Originated by* Eckford.*Introduced by* Eckford, 1894.*Description in brief* — Smaller than medium size. Open-form variety, with rose-pink standard, and wings light primrose shaded with pink.*Comparison* — Has been described as Blanche Ferry on a primrose ground. Emily Lynch was the improved form of this variety.

EMPERESS OF INDIA*Originated by* Eckford.*Introduced by* Eckford, 1891.*Donated by* Morse, for evolution studies.*Description in brief* — A medium-sized, open-form variety, with rosy standard and wings.*Description in detail* — Color of standard violet-rose 154 (4), purple-rose 150 (1) on the back; wings mauve-rose 153 (1), veined with solferino-red 157 (3-4). Flower of medium size, open form; standard of medium size, flat, with round top; wings long and narrow, concealing the keel. Flowers two, on medium stems. No fragrance. Bloom moderately profuse, continuous. Plant of medium height and slender growth. Leaflets narrow, pointed; tendrils green.*Comparison* — Blanche Ferry has wings of a purer white.**GEM***Originated by* —————.*Introduced by* May, 1894.*Description in brief* — Red and white.*Remarks* — Does not appear in later catalogues.**LADY BEACONSFIELD***Originated by* Eckford.*Introduced by* Eckford, 1893.*Donated by* Morse, for evolution studies.*Description in brief* — A medium-sized, open-form flower; standard light pink on primrose, wings light primrose.*Description in detail* — Color of standard lilacy white 7 (4) on a yellowish white ground; wings yellowish white 13 (3). Flower of medium size, open form; standard of medium size, flat, with notched top; wings medium to large, long, of medium width, partly open. Flowers two to three, on long, strong stems. Very sweet-scented. Bloom profuse, continuous. Plant of medium to tall, strong growth. Tendrils colored.*Comparison* — Countess of Shrewsbury is similar in color but is on a white ground. Coquette is said to be the large, hooded form of Lady Beaconsfield.*Remarks* — One of the best of the old varieties.**TRIUMPH***Originated by* Eckford.*Introduced by* Eckford, 1897.*Description in brief* — A large, open-form variety, with rose-colored standards and crimson-pink wings.*Comparison* — Said to be similar to Empress of India, but is much larger. Royal Rose is the hooded form of this color.**Blue and Purple Shades (Bright blue)****BLUE BELLE***Originated by* S. Bide & Sons.*Introduced by* —————.*Donated by* Bide, 1912.*Description in brief* — A grandiflora variety, with violet-blue standards and violet-purple wings.*Description in detail* — Color of standard bishop's violet 189 (1), sometimes marked at base with violet-purple; wings violet-purple 192 (1). Flower of medium size, open form; standard of medium size, flat; wings long, narrow, drooping. Flowers

two, on slender stems of medium length. Moderately fragrant. Moderately productive. Flower fades, and lasting quality is poor. Plant of tall, slender growth. Leaflets broad.

FLORA NORTON

Originated by Morse.

Introduced by Vaughan, 1904.

Donated by Boddington, 1910.

Description in brief — A medium-sized flower of a lavender-blue shade.

Description in detail — Color of standard and wings lavender-blue 204 (1); the clearest of the blues. Flower of medium size, open form; standard of medium size, flat, with round top; wings long and broad, partly open. Flowers two, on medium stems. Moderately fragrant. Bloom profuse. Sunproof. A garden variety. Plant of tall, strong growth. Leaves and stems light green; tendrils green.

Remarks — A beautiful blue. Unfortunately the flower is too small for exhibition, but the variety is worthy of retention because of the color. Flora Norton Spencer is not the same color.

MID BLUE

Originated by Dobbie & Co.

Introduced by Dobbie, 1909.

Donated by Dobbie, 1910; Burpee, 1911.

Description in brief — A medium-sized, "deep sky blue" flower.

Description in detail — Color of standard bluish violet 203 (2-3); wings lavender-blue 204 (2-3), the lower edges fading to almost white. Flower medium large, open form; standard medium large, flat, occasionally reflexed in very hot sunshine, with round top; wings long and broad, spreading. Flowers two to three, equidistant on long, strong stems. Very fragrant. Bloom medium. Sunproof. Plant of tall, strong growth. Leaflets narrow, pointed.

Comparison — Practically identical with Zoe (Biffen, Miss Hemus, Unwin, 1906). Standard lighter than that of Lord Nelson and darker than that of Flora Norton.

ZOE

Originated by R. H. Biffen. Introduced by Biffen, Miss H. Hemus, W. J. Unwin, 1906.

Comparison — Practically identical with Mid Blue (Dobbie), and has prior introduction.

Blush

ALICE ECKFORD

Originated by Eckford.

Introduced by Eckford, 1895.

Donated by Morse.

Description in brief — Pink and buff, shaded on white.

Description in detail — Color of standard pale rosy pink 129 (1); wings lilac white 7 (1). Flower small, open form; standard small, flat or with reflexed edges, with notched top; wings very long, longer than standard, narrow, concealing the keel. Flowers two to three, usually three, on medium stems. Bloom profuse, continuous. Flowers burn badly, and last poorly while on the plants. Plant of medium height and slender growth. Leaflets narrow, pointed.

Comparison — Sensation is the large, hooded form of this variety.

Remarks — Too small for the present day.

DELIGHT*Originated by Eckford.**Introduced by Eckford, 1889.**Donated by Morse, for evolution studies.**Description in brief* — A small, open-form, light blush variety.*Description in detail* — Color of standard and wings creamy white 10 (1), usually with the faintest tinge of pink; midrib on back of standard pink. Flower small, open form; standard small, flat, with notched top, folded; wings long and narrow, partly open. Flowers two, on medium stems. Moderately fragrant. Bloom profuse, continuous. Burns slightly. Plant of medium height and slender growth. Leaflets narrow, pointed; tendrils green.*Comparison* — Lemon Queen resembles this in color, but is larger.**FAIRY QUEEN***Originated by _____.**Introduced by Haage & Schmidt, 1872.**Donated by Morse, for evolution studies.**Description in brief* — A small, open, rosy white variety.*Description in detail* — Color of standard rosy white 8 (1), with a few lines of bright rose 128 (1); wings rosy white. Flower small, open form; standard small, flat or with reflexed edges, with notched top; wings short and broad, partly open. Flowers two, on long stems of moderate strength. Very fragrant. Bloom profuse, continuous. Burns badly. Plant of medium height and slender growth. Tendrils green.*Remarks* — One of the oldest varieties. In the American trade from 1882 until 1899.**LEMON QUEEN***Originated by Eckford.**Introduced by Eckford, 1892.**Donated by Morse, for evolution studies.**Description in brief* — A pale blush, lemon-tinted variety.*Description in detail* — Color of standard creamy white 10 (1); wings milk white 11 (1); general effect white. Flower of medium size, open form; standard of medium size, flat, with notched top, looped so as to conceal the notch; wings long, broad, concealing the keel. Flowers two to three, usually two, on long, strong stems. Bloom profuse, continuous. Burns badly. Plant of medium height and slender growth. Leaflets narrow, pointed; tendrils colored.*Comparison* — Delight is similar in color, but is smaller.*Remarks* — If this variety did not burn it would be desirable even at the present day.**MISS ETHEL***Originated by Eckford.**Introduced by Eckford, 1885.**Description in brief* — Delicate pink, with blush wings.*Remarks* — This variety was offered by Henderson in 1886, 1887, and 1888, by Breck in 1886, and by Farquhar in 1887.**MRS. GLADSTONE***Originated by Eckford.**Introduced by Eckford, 1890.**Description in brief* — Standard light pink, with lighter edges; wings light blush. A medium-sized, open-form variety.*Comparison* — Princess Beatrice is deeper-colored. Katherine Tracy is larger and deeper-colored.

Carmine and Rose (Carmine group)**DOROTHY VICK***Originated by* _____.*Introduced by* Vick, 1897.*Donated by* Morse, for evolution studies.*Description in brief* — A double flower, with scarlet standard and purplish crimson wings.*Description in detail* — Color of standard scarlet 156 (2); wings purplish crimson 157 (1). Flower small to medium, open form, occasionally double; standard small to medium, reflexed, with narrow base; wings short and broad, partly open. Substance poor. Flowers two to three, usually two, on medium stems. Burns badly. Plant of medium height, but makes a heavy growth. Tendrils colored; color in axils of leaves and leaflets.*Comparison* — A strain of Duchess of Edinburgh producing double flowers. White Wonder or Double Duke of Clarence gives a higher percentage of doubles. White Wonder is the best double of the old types.**DUCHESS OF EDINBURGH***Originated by* Eckford.*Introduced by* Eckford, 1886.*Donated by* Morse, for evolution studies.*Description in brief* — A small, open-form flower, with scarlet standard and purplish crimson wings.*Description in detail* — Color of standard scarlet 156 (2-3); wings purplish crimson 157 (2). Flower small, open form; standard small, flat; wings long and narrow. Moderately productive. Plant short.*Comparison* — Princess Victoria is superior in size of flower and in profusion of bloom.**PRINCE EDWARD OF YORK***Originated by* Eckford.*Introduced by* Eckford, 1897.*Donated by* Burpee, 1910, 1911.*Description in brief* — A medium-sized flower, with carmine-purple standard and rose wings.*Description in detail* — Color of standard carmine-purple 156 (1); wings Tyrian rose 155 (1). Flower of medium size, open form; standard of medium size, with reflexed edges, round top, and broad base; wings long and broad, concealing the keel. Flowers two to three, on strong stems of moderate length. Moderately fragrant. Plant of medium height and strong growth. Tendrils green.*Comparison* — Similar to Princess Victoria, but superior.**PRINCESS VICTORIA***Originated by* Eckford.*Introduced by* Eckford, 1891.*Donated by* Morse, for evolution studies.*Description in brief* — A medium-sized, open-form flower, with scarlet standard and purplish crimson wings.*Description in detail* — Color of standard carmine-purple 156 (2-3); wings purplish crimson 157 (1). Flower of medium size or larger, open form; standard of medium size, flat, with notched top and apical fold; wings long and broad, partly open. Flowers two to three, on long, strong stems. Burns slightly in hot sunshine. Plant of medium height and slender growth. Leaflets narrow, pointed; color in the axils; tendrils colored.

Comparison — Color is similar to that of Dorothy Vick, but the flowers are larger and have longer stems.

Carmine and Rose (Rose group)

ADONIS

Originated by —

Introduced by James Carter & Co., 1882.

Description in brief — A medium-sized flower, with rosy pink standard, and wings of lighter shade.

Description in detail — Color of standard purple-rose 150 (2); wings mauve-rose 153 (1).

Flower of medium size, open form; standard of medium size, flat or reflexed, with notched top and apical fold; wings long and broad, concealing the keel. Flowers two, irregularly placed on long, medium stems. Moderately fragrant. Bloom profuse, continuous. Burns badly. Plant of tall, slender growth. Tendrils green.

Comparison — Novelty and Miss Hunt are similar in color, but are larger.

Remarks — Burpee offered this variety in 1884, Breck in 1885.

AMERICAN QUEEN

Originated by Morse.

Introduced by Burpee, 1902.

Description in brief — Large, open form, magenta-rose self.

Comparison — Lord Kenyon and Lord Roseberry are similar in color, but are of hooded form.

MIMA JOHNSTON

Originated by Eckford.

Introduced by Eckford, 1908.

Description in brief — "Bright rose carmine, shaded salmon, wings soft rose." — Eckford's catalogue.

Comparison — Morse considers this variety an open form of Bolton's Pink, of medium size.

MISS HUNT

Originated by Eckford.

Introduced by Eckford, 1887.

Donated by Morse, for evolution studies.

Description in brief — A medium-sized, open flower, rosy pink.

Description in detail — Color of standard lilac-rose 152 (2-3); wings violet-rose 154 (2-3); back a trifle deeper-colored. Flower of medium size or larger, open form; standard medium to large, flat, with notched top; wings long and broad, concealing the keel. Flowers two to three, on long, strong stems. Bloom profuse, continuous. Burns slightly. Plant slender. Leaflets narrow, pointed; tendrils green.

Comparison — Larger, brighter, better-shaped flowers than Adonis. A little lighter than Novelty. Ovid, Lord Kenyon, and Lord Roseberry are the hooded forms of this variety.

Remarks — Offered by Henderson in 1889.

NOVELTY

Originated by Eckford.

Introduced by Eckford, 1895.

Donated by Morse, for evolution studies.

Description in brief — A medium-sized, rosy scarlet flower.

Description in detail — Color of standard lilac-rose 152 (4); wings violet-rose 154 (4). Flower of medium size, open form; standard of medium size, flat; wings long and

broad, concealing the keel. Flowers two to three, on very long stems of medium strength. Bloom moderately profuse. Burns slightly. Plant of medium height and slender growth. Leaflets narrow, pointed, dark green; pedicels red.

Comparison — A little deeper-colored flower than Miss Hunt; a distinct plant, with darker green leaves, less vine, and less profuse bloom than that variety.

Cream-Pink

AGNES JOHNSON

Originated by Eckford.

Introduced by Eckford, 1903.

Donated by Morse, 1910.

Description in brief — A medium-sized flower; standard cream shaded with rose-pink, wings cream flushed with pink.

Description in detail — Color of standard pale blush 137 (4); wings mauve-rose 153 (1-2). Flower of medium size, open form; standard of medium size, flat, with round top; wings long and broad, concealing the keel. Flowers two to three, on long, strong stems. Moderate fragrance. Bloom moderate. Plant of tall, strong growth. Leaves pointed; tendrils green.

Comparison — Very similar to Sunrise and Evening Star, but larger.

CORONATION

Description in brief — Blush, with pink at the back of the standard.

Comparison — Similar to Duchess of Westminster.

DUCHESS OF WESTMINSTER

Originated by Eckford.

Introduced by Eckford, 1900.

Description in brief — Apricot tinged with pink, which is deepest at the base of the standard; wings delicate rose-pink.

EVENING STAR

Originated by Morse.

Introduced by Vaughan, 1904.

Donated by Vaughan, 1910.

Description in brief — "A pale buff flushed salmon pink." — Vaughan's catalogue.

Description in detail — Color of standard maize yellow 36 (1) on a violet-rose 154 (3) ground; wings mauve-rose 153 (1). Flower of medium size; standard of medium size, flat, with round top; wings long and broad, concealing the keel. Flowers two to three, on long, strong stems. Bloom moderate. Plant of tall, strong, healthy growth. Tendrils green.

Remarks — Morse states that before its introduction this variety was called Open-form Venus.

MAY PERRETT

Originated by Eckford.

Introduced by Eckford, 1908.

Description in brief — Ivory, flushed with buff or creamy pink.

Remarks — See May Perrett Spencer.

SUNRISE

Originated by Morse.

Introduced by Vaughan, 1904.

Donated by Vaughan.

Description in brief — Bright pink suffused with primrose.

Description in detail — Color of standard and wings mauve-rose 153 (1-2); standard flushed with violet-rose 154 (4). Flower of medium size; standard of medium size, flat, with notched top; wings long and broad, partly open. Flowers two, sometimes three, on good stems. Moderate fragrance. Bloom profuse. Burns slightly in hot sun. Plant of tall, stout growth. Leaflets narrow, pointed.

Remarks — Morse states that before its introduction this variety was called Katherine Tracy on cream.

ZARINA

Originated by Biffen.

Introduced by Miss Hemus, 1909.

Donated by Miss Hemus, 1910.

Description in brief — A beautiful, large, decorative flower, of open form and soft salmon-pink color.

Description in detail — Color of standard pale rosy pink 129 (1-2); wings pale lilac-rose 130 (1-2) on a buff ground. Standard open, sometimes slightly waved; wings short and narrow. Flowers two to three, on fairly strong stems. Moderately fragrant. Bloom very profuse, continuous. Many double and triple standards. Plant of short, slender growth. Leaflets narrow, pointed; tendrils numerous and very much colored; color in axils of leaves and leaflets; calyx dark reddish brown.

Comparison — Queen of Spain in open form.

Remarks — A true stock.

Crimson and Scarlet (Crimson group)

CARDINAL

Originated by Eckford.

Introduced by Eckford, 1886.

Donated by Morse, for evolution studies.

Description in brief — A medium-sized, open-form, scarlet-crimson variety.

Synonyms — Same as Carmine Invincible at this station. Captain Sharkey (Breck, 1889) is the same variety. (See Bulletin 127 of this station.)

Remarks — Although J. S. Eckford states that this was introduced in 1887, the writer finds Cardinal (Eckford) catalogued by Breck in 1886. In Breck's catalogue for 1887 is found Cardinal (Eckford, 1886).

CARMINE INVINCIBLE

Originated by Thomas Laxton.

Introduced by Laxton, 1886.

Donated by Morse, for evolution studies.

Description in brief — A medium-sized, open-form, scarlet-crimson variety.

Description in detail — Color of standard claret 167 (2-3); wings dull dark crimson 168 (1). Flower smaller than medium size, open form; standard of medium size, with edges reflexed, sometimes twisted or curled; wings long and broad, usually concealing the keel. Substance poor. Flowers two to three, on short, weak stems. Fragrant. Bloom profuse and continuous. Burns badly. Plant of medium height and slender growth. Produces many side branches from the base, giving a heavy row of plants.

Remarks — This variety marked a distinct advance in the improvement of sweet peas. Reputed to be a cross between Invincible Scarlet and Invincible Black. Received an award of the Floral Committee of the Royal Horticultural Society in 1883.

FIREFLY*Originated by* Eckford.*Introduced by* Eckford, 1893.*Description in brief* — A medium-sized, open-form, bright red variety.*Comparison* — Slightly different form from Cardinal. Ignea, Brilliant, Mars, Salopian, and King Edward VII were the hooded forms of this color. King Edward Spencer is the waved form.**INVINCIBLE SCARLET***Originated by* Stephen Brown.*Introduced by* Carter, 1866.*Description in brief* — A crimson-scarlet variety.*Synonyms* — Morse states that this is the same as Carmine Invincible.*Remarks* — On July 11, 1865, Mr. Brown gained the first First Class Certificate ever awarded by the Royal Horticultural Society for a sweet pea. This variety was catalogued in the American trade from 1870 until 1900.**KING EDWARD IMPROVED***Originated by* —————.*Introduced by* Watkins & Simpson, 1910.*Donated by* Watkins & Simpson.*Description in brief* — A large, carmine-scarlet variety.*Comparison* — An improved strain of King Edward VII.*Remarks* — A fixed stock.**KING EDWARD VII***Originated by* Eckford.*Introduced by* Eckford, 1903.*Donated by* Boddington, 1910; Burpee, 1911, 1912.*Description in brief* — A large, carmine-scarlet variety.*Description in detail* — Color of standard carmine-purple 156 (4); wings carmine-purple 156 (1-2). Flower large, open form; standard large, flat or occasionally slightly hooded; wings large, long and broad, concealing the keel. Substance good. Flowers three to four, on long, strong stems. Fragrance very slight or none. Bloom profuse, continuous. No burning. A garden or market variety. Growth tall, strong, and healthy.*Remarks* — This variety represents the acme of the crimson-scarlet varieties of the open or the hooded form. King Edward Spencer is the waved form.**Crimson and Scarlet (Scarlet group)****BAKER'S SCARLET***Originated by* —————.*Introduced by* Bakers, 1909.*Description in brief* — "Almost pure scarlet. Same shade as Queen Alexandra but not so well formed as standard turns backward." — Morse's Field Notes on Sweet Peas.*Comparison* — Introduced as an Improved Queen Alexandra.**FADELESS SCARLET GEM***Originated by* Morse.*Introduced by* Morse, 1907.*Donated by* Morse, 1910.*Description in brief* — A bright scarlet variety.*Description in detail* — Color of standard and wings French purple 161 (1-2). This strain of Scarlet Gem does not turn purple. Flower of medium size, open form;

standard of medium size, flat, with round top; wings long and broad, concealing the keel. Flowers two to three, usually two, on long, strong stems. Bloom profuse, continuous. A garden variety. Plant of medium height and slender growth. Foliage of a bluish green color.

Remarks — Is not fadeless; it soon loses its bright appearance, but is free from the objectionable purple tinge in the original variety.

SCARLET GEM

Originated by Eckford.

Introduced by Eckford, 1904.

Donated by Burpee, 1911.

Description in brief — A bright scarlet variety.

Description in detail — (See the description preceding of Fadeless Scarlet Gem.)

Comparison — Fadeless Scarlet Gem is supposed to be a better selection. No difference was seen in the trials at this station in 1911.

Remarks — Unfortunately the flower turns dark soon after it opens, becoming almost black.

W. E. GLADSTONE

Originated by —————.

Introduced by May, 1894.

Description in brief — "Brightest shade of scarlet." — May's catalogue, 1894.

Fancy

SYBIL ECKFORD

Originated by Eckford.

Introduced by Eckford, 1906.

Donated by Morse, 1910; Burpee, 1911.

Description in brief — A large, creamy white variety.

Description in detail — Color of standard and wings creamy white 10 (3). Flower large, open form; standard large, flat, occasionally with notched top; wings large, spreading. Flowers two, irregularly placed on medium stems. Moderate fragrance. Moderately productive. Plant of tall, moderately strong growth.

Comparison — An open-form Marchioness of Cholmondeley.

Lavender

CREOLE

Originated by Morse.

Introduced by Burpee, 1897.

Donated by Morse, 1910.

Description in brief — A variety with pinkish lavender standard and lavender wings.

Description in detail — Color of standard pale light lilac 187 (4); wings heliotrope 188 (1), with back of ageratum blue 201 (1). Flower large; standard large, flat; wings large, long and broad. Flowers two to three, usually three, on medium stems. Very fragrant. Bloom profuse, continuous. Plant of strong, tall growth.

Remarks — Not more than fifty per cent true. Morse states, however, that the variety was withdrawn because of the impossibility of getting it more than seventy-five per cent true.

PRINCESS MAY

Originated by Laxton.

Introduced by Laxton, 1893.

Description in brief — A variety with pale mauve standard and lavender wings. Flower of medium size.

Comparison — Superseded by Lady Grizel Hamilton.

Remarks — Offered in the United States by Henderson in 1894.

Magenta-Rose**CALYPSO***Originated by* Eckford.*Introduced by* Eckford, 1900.*Description in brief* — A magenta-flushed and -veined mauve flower, of medium size and open form.**Marbled****AZURE FAIRY***Originated by* —.*Introduced by* R. H. Bath, 1910.*Description in brief* — "French grey ground marbled pale blue." — Bath's catalogue.*Remarks* — When grown in 1910 this variety was very unfixed. The majority of our plants were Helen Pierce, with a few David R. Williamson. We believe this variety has been improved.**HELEN PIERCE***Originated by* Morse.*Introduced by* Morse, 1905.*Description in brief* — White-veined, mottled and marbled with bright blue.*Description in detail* — Standard marbled and flaked with bluish violet 203 (3) on a purplish-tinted white ground 6 (3-4); wings lilac white 7 (3-4); base of petals not colored; back of standard heavily marbled with blue; lower edges of wings and base of standards often fleshy white 9 (1-2). Flower of medium size, hooded form; standard of medium size, hooded slightly, with round top; wings long and broad, partly open. Flowers two to three, on long, strong stems. Moderately fragrant. Bloom profuse, continuous. Sunproof. Plant of medium height and strong growth.*Remarks* — Distinct. One of the indispensable varieties for a complete collection.**Maroon Shades** (Claret group)**CARMEN SYLVA***Originated by* Laxton.*Introduced by* Laxton, 1892.*Donated by* Morse, for evolution studies.*Description in brief* — Standard claret at base, shading to almost white edges; wings lilac.*Description in detail* — Color of standard carmine 116 (1), becoming lighter toward edges, which are rosy white 8 (2-3); wings lilac 176 (4), edges lobelia blue 205 (1). Flower small, open form; standard small, flat, with narrow base and notched top; wings short and narrow. Flowers two to three, generally two, equidistant on medium stems. Very fragrant. Moderately productive. Burns slightly. Plant of tall, fairly strong growth. Leaflets narrow, pointed; tendrils green.**ETNA***Originated by* Laxton.*Introduced by* Laxton, 1892.*Donated by* Morse, for evolution studies.*Description in brief* — Standard amaranth-red, with light edges; wings rosy magenta.*Description in detail* — Color of standard amaranth-red 168 (4), back purple-brown 166 (3-4); wings rosy magenta 169 (1). Flower small, open form; standard small, flat, with narrow base; wings long and narrow. Flowers two, sometimes three, on slender stems of medium length. Plant of strong, vigorous growth.*Comparison* — Vesuvius is much the same, but is more blue.*Remarks* — One of the most famous of Laxton's varieties.

RISING SUN

*Originated by Laxton.**Introduced by Laxton, 1892.**Donated by Morse, for evolution studies.**Description in brief* — Standard carmine-purple, with rosy white edges; wings mauve-rose.*Description in detail* — Color in center of standard carmine-purple 156 (2), with edges rosy white 8 (4); wings mauve-rose 153 (1) to violet-rose 154 (1). Flower small, open form; standard small, reflexed, with notched top; wings long, very narrow, partly open. Moderately fragrant. Moderately productive. Burns badly. Stems short and weak. Plant of short, weak, slender growth. Leaflets narrow, pointed.*Remarks* — One of the worst varieties to burn in hot weather.

VESUVIUS

*Originated by J. C. Schmidt.**Introduced by Schmidt, 1886.**Donated by Morse, for evolution studies.**Description in brief* — Color of flower magenta and violet-purple.*Description in detail* — Color of standard magenta 182 (3-4), and rosy white 8 (4) at the edges; wings bishop's violet (purple) 189 (4), and bright violet-purple on the back. Flower small, open form; standard small, flat, stiff, notched; wings long and narrow. Bloom profuse. Plant of tall, strong growth.*Comparison* — Carmen Sylva is similar, but is more carmine.*Remarks* — Offered by Joseph Breck in 1887; by Farquhar in 1886

Maroon Shades (Maroon group)

BLACK KNIGHT

*Originated by Eckford.**Introduced by Eckford, 1898.**Donated by Boddington, 1910; Burpee, 1910.**Description in brief* — A very deep maroon.*Description in detail* — Color of standard nearest to rich pansy-violet 191 (4), but with more red than 191; wings rich pansy-violet 191 (1-2), veins darker. Back of standard is glossy. Flower large, open form; standard large, flat, with notched top; wings long and broad, concealing the keel. Flowers two to three, usually two, on stems of moderate length. Fragrance slight. Moderately productive. Plant of tall, strong growth. Leaflets narrow, pointed; tendrils green; pods green.*Remarks* — One of the darkest varieties, and the best of its color in the old type.

BLACK MICHAEL

*Originated by Eckford.**Introduced by Eckford, 1905.**Donated by Boddington, 1910; Burpee, 1911.**Description in brief* — A large, pure maroon self.*Description in detail* — Color of standard deep carmine-violet 174 (3-4); wings a little lighter. Flower large, open form; standard large, edges reflexed, round top with loop; wings long and broad, concealing the keel. Flowers two, seldom three, on long, strong stems. Plant of medium height and slender growth. Leaflets narrow, pointed, dark green; the entire plant has a blue cast; pods colored on the edge.*Comparison* — General effect similar to Black Knight.*Synonyms* — Regina, introduced as an Improved Black Michael, appears to be the same.

BOREATTON*Originated by* Eckford.*Introduced by* Eckford, 1888.*Description in brief* — A deep maroon self, with a medium-sized, open-form flower.*Comparison* — This variety is a little lighter than Stanley. Boreatton, Stanley, and Black Knight form a series with gradually deepening color.**CARDINAL WOLSELEY***Originated by* —————.*Introduced by* May, 1894.*Description in detail* — In Bulletin 111 of this station this variety is described as follows:

" Flowers large. Standard flat, slightly wedged. Color, standard crimson, wings maroon, rich. Bloom somewhat profuse."

Remarks — Shown in color illustration on back cover of May's catalogue for 1895. The introducer called the color a deep crimson.**EMPRESS OF INDIA***Originated by* —————.*Introduced by* May, 1894.*Description in brief* — " Darkest shade of purple." — May's catalogue.**REGINA***Originated by* Bolton.*Introduced by* Bolton, 1908.*Donated by* W. W. Rawson & Co., 1910.*Description in brief* — A dark maroon self.*Synonyms* — Seems to be Black Michael. Bolton called this variety an improved Black Michael.**STANLEY***Originated by* Eckford.*Introduced by* Eckford, 1893.*Donated by* Burpee, 1911.*Description in brief* — A large, open-form, deep maroon self.*Comparison* — Is deeper-colored than Boreatton, but not so dark as Black Knight.*Remarks* — Reputed to be a cross between Captain of the Blues and Splendour.**Maroon Shades** (Maroon and Violet group)**BLACK***Donated by* Morse, for evolution studies.*Description in brief* — A medium-sized, dark violet variety.*Description in detail* — Color of standard dark violet 193 (4); wings rich pansy-violet 191 (1), back 191 (4). Flower of medium size, open form; standard of medium size, flat, with narrow base and notched top; wings long and narrow. Bloom profuse. Plant of tall, strong growth.*Synonyms* — Invincible Black is the same variety.*Remarks* — One of the oldest varieties. Mentioned in sweet-pea literature as early as 1793, and catalogued by Thorburn of New York in 1824.**NEGRO***Originated by* —————*Introduced by* H. J. Jones, 1908.*Description in brief* — Deep maroon and dark blue flower.

PEACOCK*Originated by* —————.*Introduced by* Jones, 1908.*Description in brief* — Standard red, wings blue.**SULTAN***Originated by* —————.*Introduced by* Laxton.*Description in brief* — Standard maroon; wings lilac, bordered with blue.*Comparison* — Superseded by Monarch.**Mauve****CAPTIVATION***Originated by* Eckford.*Introduced by* Eckford, 1895.*Donated by* Burpee, 1910, 1911, 1912.*Description in brief* — A medium-sized, purple-magenta variety.*Description in detail* — Color, of standard and wings bluish lilac 183 (2-3); wings a lighter tint. Flower of medium size, open form; standard of medium size, irregular, sometimes crumpled, with round top; wings long and broad, concealing the keel. Flowers two to three, on long, strong stems. Very fragrant. Bloom profuse, continuous. Burns slightly. Plant of medium height and strong growth. Leaflets broad, pointed; pedicels red; calyx often colored.*Remarks* — A distinct variety.**PRINCESS LOUISE***Description in brief* — Standard light magenta-pink, wings lilac.*Synonyms* — Hutchins gave this as a synonym of Violet Queen in his catalogues for 1894, 1895, 1896, and 1897.*Remarks* — Offered in United States by Burpee in 1887, and listed each year until 1898.

Burpee published a color plate of Princess Louise, Invincible Carmine, and Bronze Prince in his catalogue for 1887. This is the first color plate of sweet peas in an American catalogue.

THE QUEEN*Originated by* Eckford.*Introduced by* Eckford, 1887.*Donated by* Morse, for evolution studies.*Description in brief* — A small flower, purplish mauve.*Description in detail* — Color of standard and wings purplish mauve 186 (2-3). Flower below medium size, open form; standard below medium size, flat, with slightly notched top; wings long and narrow, partly open. Flowers two to three, equidistant on stems. Fragrance moderate. Bloom profuse. Burns badly. Plant of tall, moderately strong growth. Leaflets narrow, pointed; tendrils green.*Comparison* — Violet Queen is deeper and more blue.*Remarks* — An unattractive variety.**VIOLET QUEEN***Originated by* —————.*Introduced by* Carter, 1878.*Donated by* Morse, for evolution studies.*Description in brief* — A small, open flower; standard vinous-mauve, wings violet-purple.*Description in detail* — Color of standard vinous-mauve 184 (2-3); wings bright violet-purple 190 (1), becoming more blue as flower withers. Flower small, open form;

standard small, flat, wedge-shaped, with notched top and narrow base; wings long and narrow. Flowers two to three. Bloom profuse. Burns badly. Plant of tall, moderately strong growth. Leaflets narrow, pointed.

Comparison — The Queen is similar, but lighter. Emily Eckford is the perfected form.

Remarks — Messrs. Carter advertised this variety by means of a colored plate in their catalogue. This was the first sweet pea so figured. Henderson offered it to the American trade in 1882.

Orange Shades (Orange-pink group)

EVELYN BYATT

Originated by —————. *Introduced by* Watkins & Simpson, 1906.

Description in brief — A brilliant scarlet-orange variety.

Description in detail — Color of standard reddish old rose 142 (4); wings old rose 144 (1), back purple-rose 150 (1). Flower of medium size, open form; standard of medium size, flat, without apical notch; wings large, long, nearly as long as standard, broad, partly open. Flowers two to three, usually three, on long, strong stems. Bloom profuse. Burns very badly. Plant of tall, strong growth. Leaves narrow, pointed; tendrils green.

Comparison — More attractive than Gorgeous.

HERBERT SMITH

Originated by Holmes. *Introduced by* Robert Sydenham, 1908.

Description in brief — Orange-pink in color.

Comparison — Introduced as an Improved Gorgeous.

Orange Shades (Orange-scarlet group)

COUNTESS OF POWIS

Originated by Eckford. *Introduced by* Eckford, 1897.

Description in brief — "Glowing orange suffused light purple." — Originator's description, catalogue, 1897.

GORGEOUS

Originated by Morse. *Introduced by* Burpee, 1899.

Donated by Burpee, 1910, 1911.

Description in brief — A medium-sized variety. Standard orange-scarlet; wings rose, tinged with orange.

Description in detail — Color of standard reddish old rose 142 (4); wings bright rose 128 (1), strongly tinged with orange. Flower of medium size, open form; standard of medium size, flat; wings short and broad, partly open. Fragrance slight. Bloom profuse. Burns badly. Stems medium in length and strength. Plant of medium height and strong growth.

Comparison — A deeper and brighter color than Countess of Powis, Meteor, and Orange Prince, which form a series in the order named.

HETTY GREEN

Originated by H. E. Ward. *Introduced by* Bolton, 1907.

Description in brief — "Bright orange scarlet, wings rosy crimson." — Catalogue of National Sweet Pea Society.

METEOR*Originated by* Eckford.*Introduced by* Eckford, 1893.*Donated by* Morse, for evolution studies.*Description in brief* — Orange-pink, wings orange-rose.*Description in detail* — Color of standard rosy flesh 134 (2-3); wings violet-rose 154 (1).

Flower of medium size, open form; standard of medium size, flat; wings long and broad. Flowers two, on short or medium stems. Fragrant. Bloom profuse, continuous. Burns badly. Plant of medium height.

Comparison — A slightly deeper color than Orange Prince.**MILDRED WARD***Originated by* Ward.*Introduced by* Sydenham, 1907.*Description in brief* — An orange-scarlet variety.**ORANGE PRINCE***Originated by* Eckford.*Introduced by* Eckford, 1886.*Donated by* Morse, for evolution studies.*Description in brief* — "A bright orange pink." — Hutchins' catalogue.*Description in detail* — Color of standard rosy flesh 134 (1); wings violet-rose 154 (1).

Flower of medium size, open form; standard of medium size, reflexed, sometimes crumpled, with notched top; wings large, long and broad. Flowers two, on strong stems of medium length. Burns badly. Plant of medium height and slender growth. Leaflets narrow, pointed.

Remarks — Received award by Floral Committee of the Royal Horticultural Society in 1883. Offered in United States by Breck in 1887.

Picotee Edged (Lavender and Mauve group)**BLUE EDGED***Originated by* Major Trevor Clarke.*Introduced by* Carter, 1860.*Synonyms* — Blue Hybrid was probably identical.

Remarks — This variety is given in the Sweet Pea Annual, and in Sweet Peas Up to Date (edition of 1910), as first introduced in 1883. This is an error of date. The variety was catalogued by Vick as early as 1872, if not earlier. The first of the picotee-edged blues.

CAPTAIN CLARKE*Originated by* —*Introduced by* C. Sharpe & Co.*Description in brief* — White-edged and penciled with carmine; wings edged with blue.

Description in detail — Color of standard shaded violet-rose 154 (2-3) on a lilac white 7 (4) ground; wings lilac white, shaded lilac-mauve 196 (1). Flower small, open form; standard small, flat, with notched top; wings short and broad, partly open. Flowers two to three, usually three, equidistant on medium stems. Moderately fragrant. Bloom profuse. Plant of tall, healthy growth. Leaflets broad, pointed; tendrils green.

Remarks — Formerly known also under name "Tricolor." Columbia, another tricolor variety, is striped. Offered by Breck in 1885.

SPLENDID LILAC

Donated by Morse, for evolution studies.

Description in brief — A medium-sized flower, with a lilac-blue standard, and white wings edged with blue.

Description in detail — Color of standard bluish lilac 183 (4), back 183 (1); wings white, edged and shaded with ageratum blue 201 (1-4). Flower of medium size, open form; standard of medium size, flat, wedge-shaped, with narrow base and notched top; wings long and narrow. Flowers one to two, sometimes only one, on short stems. Plant of very tall, strong growth. Leaflets narrow, pointed, dark green.

Remarks — An unattractive variety, due to poor contrasts in color. Offered by Burpee in 1887.

Pink**BRIDESMAID**

Originated by Morse.

Introduced by Vaughan, 1904.

Description in brief — A medium-sized, deep pink variety.

Description in detail — Color of standard mauve-rose 153 (1), center violet-rose 154 (3); wings mauve-rose 153 (1). Flower of medium size, open form; standard of medium size, flat, with notched top; wings short, partly open. Flowers two, on medium stems. Bloom profuse. Plant of tall, strong, healthy growth. Leaflets broad, pointed; tendrils green; no axillary color shown.

Comparison — A deeper color than Katherine Tracy, but otherwise similar. Bridesmaid was an improvement on Princess Beatrice.

CROWN PRINCESS OF PRUSSIA

Originated by —

Introduced by Haage & Schmidt, 1868-1869.

Donated by Morse, for evolution studies.

Description in brief — Light rose, shading deeper toward center.

Description in detail — Color of standard shading from mauve-rose 153 (1) to rosy white 8 (1); wings mauve-rose 153 (1); color is deeper at base of standard and on dorsal edges of wings. Flower small, open form; standard small, badly reflexed, with notched top; wings long and narrow, partly open. Flowers two to three, on long stems of medium strength. Moderately fragrant. Moderately but continuously productive. Burns badly. Plant of medium height and slender growth. Leaflets narrow and pointed; tendrils green.

Comparison — Colors weaker than those of Peach Blossom.

Remarks — Catalogued by C. Platz, of Erfurt, in 1870. Distributed in England by Sharpe in 1871. Probably the first of the pink varieties.

DUCHESS OF MARLBORO

Originated by —

Introduced by May, 1894.

Description in brief — "A rich rose color." — May's catalogue.

Description in detail — In Bulletin 111 of this station the variety is described as follows: "Flowers small. Standard flat. Color, standard pink, wings rose-pink. Bloom profuse."

Remarks — A colored illustration of this variety appeared on the back cover of May's catalogue for 1895.

DUKE OF KENT*Originated by* _____.*Introduced by* May, 1894.*Description in detail* — In Bulletin 111 of this station is the following description of this variety: "Flowers small. Standard flat, wedge-shape. Color, rose-pink. Bloom medium."*Remarks* — Introducer gives color as a beautiful carmine.**ISA ECKFORD***Originated by* Eckford.*Introduced by* Eckford, 1887.*Description in brief* — Creamy white, suffused with rosy pink.*Comparison* — Peach Blossom is the larger form of this variety. Crown Princess of Prussia is somewhat similar.**KATHERINE TRACY***Originated by* Ferry.*Introduced by* Ferry, 1895.*Donated by* Boddington, 1910; Burpee, 1911.*Description in brief* — A soft pink, with lighter edges.*Description in detail* — Color of standard mauve-rose 153 (1), center 153 (4); wings mauve-rose 153 (2). Flower of medium size, open form; standard of medium size, flat, with notched top; wings of medium size, short, partly open. Flowers two, on medium stems. Fragrant. Bloom profuse. A garden variety. Plant of tall, strong, healthy growth. Leaflets broad, pointed; tendrils green; no axillary color shown.*Remarks* — One of the most famous American varieties.**PEACH BLOSSOM***Originated by* Eckford.*Introduced by* Eckford, 1893.*Donated by* Morse, for evolution studies.*Description in brief* — Deep pink, shading to light pink on edges.*Description in detail* — Color of standard shades from mauve-rose 153 (2) in center near base, to rosy white 8 (2-3) at edges; wings mauve-rose 153 (1), becoming lighter at edges; the early stage of development of the flower shows a trace of yellow; the general effect is a beautiful pink. Flower medium to large, open form; standard medium to large, flat, with notched top; wings long and narrow, concealing the keel. Flowers two, on medium stems. Very fragrant. Bloom profuse, continuous. Burns slightly. Plant of medium height. Leaflets narrow, pointed, dark green; tendrils colored.*Comparison* — Lovely is the improved form of this variety.**PRINCESS BEATRICE***Originated by* Muskett.*Introduced by* C. C. Hurst & Son, 1883.*Description in brief* — Standard light pink, wings light rose-pink.*Comparison* — Carmine Rose is similar.*Remarks* — Given award by Royal Horticultural Society in August, 1883.**Salmon Shades****HENRY ECKFORD***Originated by* Eckford.*Introduced by* Eckford, 1906.*Donated by* Boddington, Rawson, 1910; Burpee, 1911.*Description in brief* — A beautiful salmon color.

Description in detail — Color of standard shrimp pink 75 (2); wings shrimp pink 75 (2-3). Flower above medium size, open form; standard of medium size, flat, with round top; wings short and broad, partly open. Bloom profuse. Moderately fragrant. Burns very badly. Stems strong, but of medium length. A garden variety. Plant of medium height and strong growth. Leaflets narrow, pointed; pedicels red.

Striped and Flaked (Orange-rose group)

CORONET

Originated by S. T. Walker. *Introduced by* Walker, W. T. Hutchins, 1898.

Donated by Morse, for evolution studies.

Description in brief — Light orange-pink stripe on a white ground.

Description in detail — Standard and wings striped with peach-blossom 127 (standard 3-4, wings 1-2) on a rosy white 8 (4) ground. Flower large, open form; standard large, flat, with notched top; wings long and broad, concealing the keel. Flowers on slender stems of medium length. Moderately fragrant. Moderately productive. Plant of medium height and slender growth. Leaflets narrow, pointed.

Comparison — Aurora is superior.

Striped and Flaked (Pink-on-primrose group)

ELFRIEDA

Originated by —. *Introduced by* W. W. Johnson & Son, 1904.

Description in brief — Slightly striped with rose on a primrose ground.

Striped and Flaked (Purple and Blue group)

HESTER

Originated by Miss Hemus. *Introduced by* Miss Hemus, 1908.

Donated by Rawson, 1910; Burpee, 1911.

Description in brief — A deep blue stripe on white.

Description in detail — Ground color of standard and wings purplish-tinted white, striped with violet-purple 192 (1-2). Flower of medium size, open form; standard of medium size, erect, with round top; wings long and broad, partly open. Flowers two to three, on medium stems. Fragrant. Bloom profuse. Growth strong, vigorous.

Comparison — Prince Olaf is superior.

MARBLED BLUE

Originated by Sutton & Sons. *Introduced by* Sutton, 1906.

Description in brief — White, striped with blue.

Comparison — Similar to Hester.

PRINCE OLAF

Originated by Dobbie. *Introduced by* Dobbie, 1908.

Donated by Dobbie.

Description in brief — White, striped with blue.

Description in detail — Color of standard and wings purplish-tinted white, striped with lobelia-blue 205 (3); wings 205 (1). Flower of medium size or larger; standard of

medium size, slightly reflexed at times; wings long and broad, partly open. Flowers usually three, on long, strong stems. Moderately fragrant. Bloom profuse, continuous. Pedicels blackish. Suitable for home decoration.

Comparison — Has a trifle more red in the flowers than Hester.

Remarks — The best variety in this color and class.

PURPLE BROWN STRIPE

Donated by Morse, for evolution studies.

Description in brief — A white variety, striped with maroon on standard and with violet on wings.

Description in detail — Ground color rosy white 8 (4); standard striped with dark violet 193 (3-4), wings with bright violet-purple. Flower of medium size; standard of medium size, flat, with narrow base and notched top; wings long and broad, partly open. Flowers two to three, usually two, on long, strong stems. Fragrant. Bloom moderately profuse, but continuous.

Synonyms — A variety named Black Brown Striped proved to be the same. Light Blue and Purple Striped White is the same variety.

Striped Red and Rose (Crimson-on-white group)

AMERICA

Originated by Morse.

Introduced by Vaughan, 1896.

Donated by Morse, Vaughan, 1910; Burpee, 1911.

Description in brief — A carmine stripe on white.

Description in detail — Standard and wings striped with carmine-red on a very white ground. Flower medium to large, open form; standard medium to large, flat; wings long. Flowers two to three, on long, wiry stems. Very fragrant. Bloom profuse, continuous. Plant of medium height and slender growth. Leaflets narrow, pointed; pedicels red.

Comparison — Distinct from Queen of the Isles.

Remarks — The brightest red-striped variety. Name originally proposed was Toreador.

COLUMBIA

Originated by Hutchins.

Introduced by Hutchins, 1897.

Donated by Morse.

Description in brief — Standard light crimson, wings lavender, striped on white.

DAYBREAK

Originated by Hutchins.

Introduced by Burpee, 1896.

Donated by Morse, for evolution studies.

Description in brief — White, striped with carmine; wings striped with rose.

Description in detail — Color of standard carmine-purple 156 (2) striped and grained on white, back carmine-purple in center with lighter edges; wings white, with markings of violet-rose 154 (1). Flower of medium size, open form; standard of medium size, flat, with notched top and narrow base; wings long and narrow, partly open. Flowers two to three, on long, strong stems. Bloom profuse, continuous. Plant of medium height and slender growth. Leaves narrow, pointed.

INVINCIBLE SCARLET STRIPED

Description in brief — Red-striped on a white ground.

INVINCIBLE STRIPED

Originated by _____.

Introduced by Carter, 1880.

Description in brief — Striped with crimson on a white ground.

Description in detail — In Bulletin 111 of this station the following description of this variety appears: "Flowers medium size. Standard slightly convex, notched. Color, white streaked with pink, rather cheap. Bloom profuse."

Remarks — Awarded a First Class Certificate by the Royal Horticultural Society on August 22, 1883.

QUEEN OF THE ISLES

Originated by Eckford.

Introduced by Eckford, 1885.

Donated by Morse, for evolution studies.

Description in brief — White, striped with carmine-purple.

Description in detail — Standard striped with carmine-purple 156 (2-3) on a rosy white 8 (3-4) ground; wings striped with solferino-red 157 (1) on a rosy white ground. Flower of medium size, open form; standard of medium size, reflexed, with notched top and narrow base; wings long and narrow. Flowers two, on short or medium stems of only moderate strength. Bloom moderate. Plant of medium height, slender. Leaflets narrow, pointed; tendrils green.

Comparison — Queen of the Isles has more purple in the stripes of the wings, and less intense red in the stripes of the standard, than is found in America. America is a self, Queen of the Isles is not.

RED AND WHITE STRIPED

Description in detail — In Bulletin 111 of this station the variety is described as follows: "Flowers medium size. Standard convex. Color white strongly streaked with pink. Bloom sparse."

Comparison — This variety was superseded by America.

Synonyms — "Is Scarlet Striped." — Bulletin 127 of this station.

Striped Red and Rose (Pink-on-white group)

BERTIE HAMILTON

Originated by Walker.

Introduced by Walker, 1898.

Description in brief — Lightly striped with dark ox blood on front of standard and wings, and more heavily striped on reverse.

DUCHESS OF YORK

Originated by Eckford.

Introduced by Eckford, 1894.

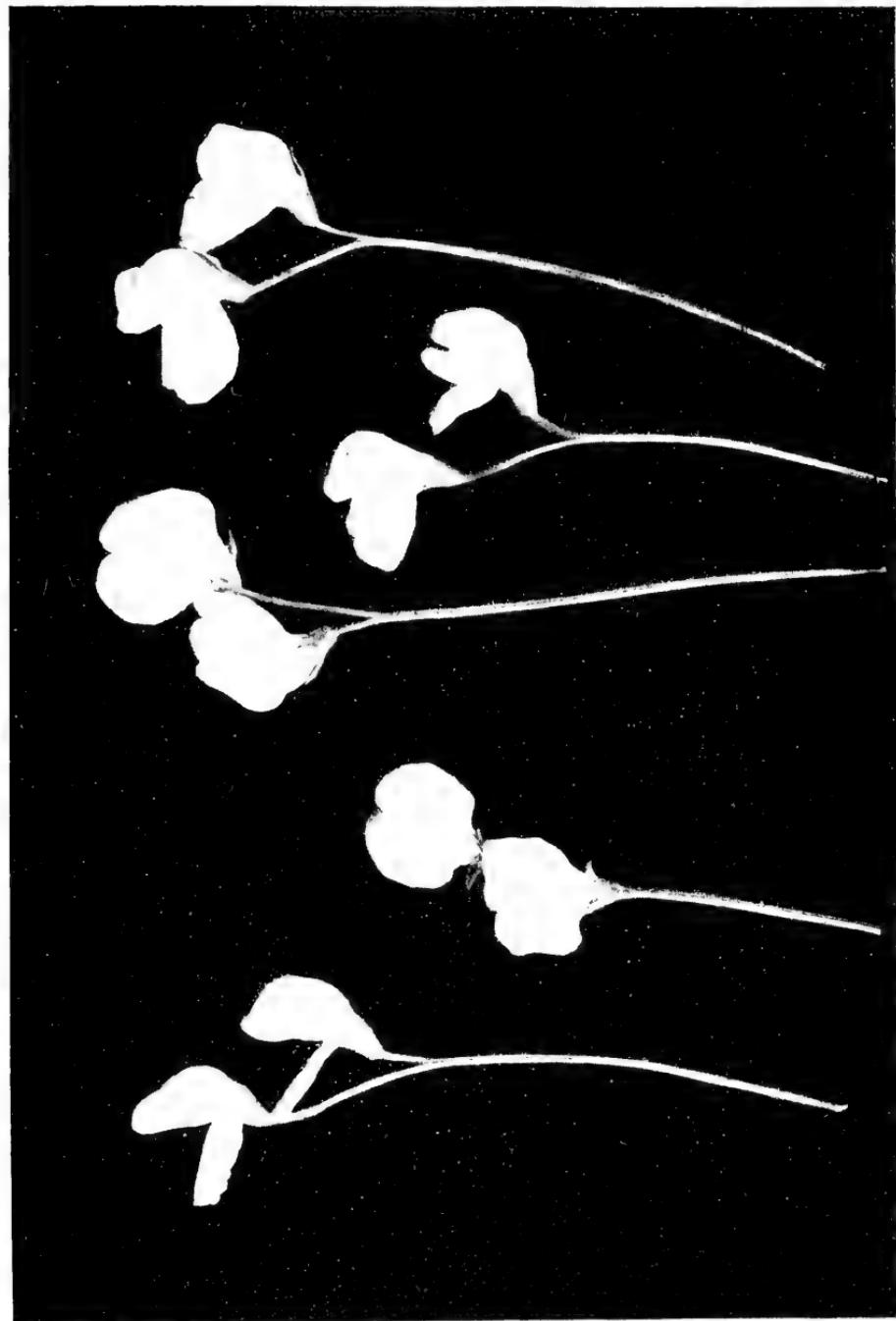
Donated by Morse, for evolution studies.

Description in brief — A light pink stripe on white.

Description in detail — Standard and wings striped with pale lilac-rose 130 (2) on a lilac white 7 (1) ground. Flower medium to large, open form; standard medium to large, flat; wings long and narrow, concealing the keel. Flowers borne on medium stems. Very fragrant. Bloom profuse, continuous. Plant of medium height and slender growth. Leaflets narrow, pointed; tendrils colored.

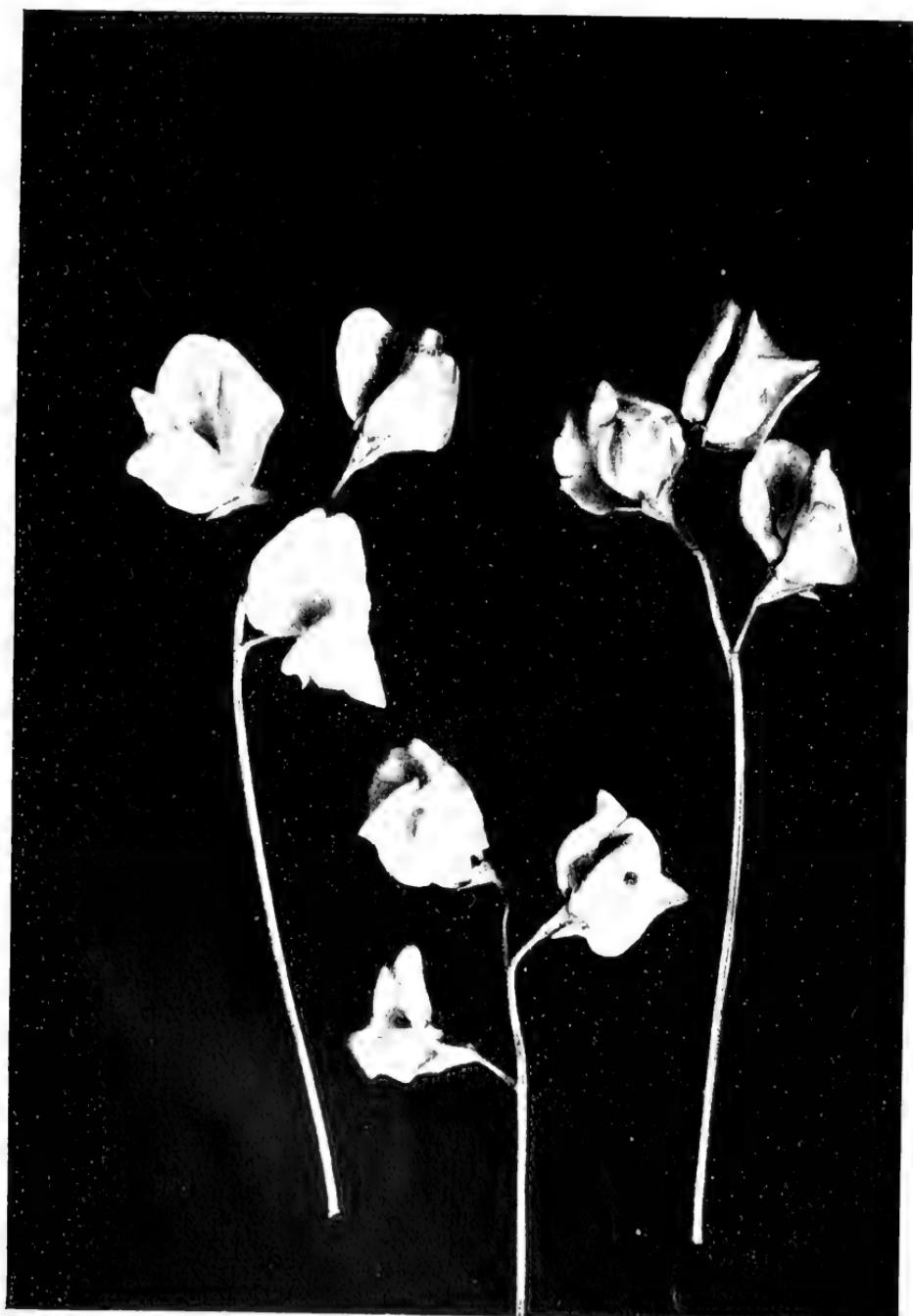
Comparison — Ramona is similar in color but is of hooded form.

MINNEHAHA*Originated by* Walker.*Introduced by* Peter Henderson & Co., 1898.*Description in brief* — Striped with pale pink.**White****ALBA MAGNIFICA***Originated by* Henderson.*Introduced by* Henderson, 1891.*Donated by* Morse, for evolution studies.*Description in brief* — A small, white variety.*Description in detail* — Color milk white 11 (2-3). Flower small, open form, with notched standard and narrow base.*Comparison* — An improvement on Queen of England, but superseded in its turn by Emily Henderson.**EARLIEST WHITE***Originated by* Gould.*Introduced by* Burpee, 1906.*Donated by* Boddington, Burpee.*Description in brief* — A very early, white variety.*Description in detail* — Color milk white 11 (2-3); wings and standard have no trace of color except in the young bud. Flower of medium size, open form; standard notched; wings long and broad. Substance good. Flowers one to three, on short to medium stems. Fragrant. Plant dwarf. Leaflets dark green, narrow, pointed. Seed large, round, black.*Remarks* — This variety properly belongs to the winter-flowering type, but is also grown in gardens. Valuable only for very early flowers.**EMILY HENDERSON***Originated by* —*Introduced by* Henderson, 1893.*Description in brief* — A medium-sized, white variety.*Description in detail* — Flower of medium size, open form; standard with notched top and narrow base, inclined to curve back at the sides. Flowers borne on slender stems of moderate length, appearing to be far apart on the stems. Easily injured by wet weather. Plant slender, but tall.*Remarks* — No longer of any value. For ten years the standard white variety**GRACE MAY***Originated by* —*Introduced by* May, 1894.*Description in detail* — "A magnificent large flowering white sweet pea. The individual flowers often measure two and one half inches in diameter and waxy white color and highly perfumed." — May's catalogue, 1894.**JOSEPHINE WHITE***Originated by* Ferry.*Introduced by* Ferry, 1902.*Description in brief* — A white variety.**MRS. LANGTRY***Originated by* —*Introduced by* May, 1894.*Description in brief* — "A charming white." — Introducer's description, 1894.*Description in detail* — "Flowers medium size. Standard flat, notched. Color, pure white, rich. Bloom medium." — Bulletin 111 of this station.



Alba Magnifica

Queen of England



MONT BLANC*Originated by Ernest Benary(?)*.*Introduced by Benary, 1900.**Donated by Boddington, 1910.**Description in brief*—An early, pure white variety.*Description in detail*—Color of standard and wings creamy white 10 (1). Flower of medium size, open form; standard of medium size, flat, notched; wings of medium size, spreading. Plant slender, of dwarf growth. Leaflets narrow, pointed. Seed white.*Comparison*—Not so early as Earliest of All, which also has the advantage of black seeds, giving better germination in cold soil early in the spring.*Remarks*—Belongs properly to the winter-flowering type, but is grown in gardens for early bloom.**QUEEN OF ENGLAND***Originated by Eckford.**Introduced by Eckford, 1888.**Donated by Morse, for evolution studies.**Description in brief*—A small, white variety.*Description in detail*—Flower small, open form; standard notched at top, often at sides, and with a narrow base. Flowers two to three, on slender stems of medium length. Plant of tall, vigorous growth.*Comparison*—Superseded by Alba Magnifica and Emily Henderson.**SHASTA***Originated by Morse.**Introduced by Morse, 1904.**Donated by Boddington, Rawson, 1910; Burpee, 1911.**Description in brief*—A large, pure white flower, of open form.*Description in detail*—Color 2 (1), opens light primrose, changing to pure white. Flower large, open form; standard large, generally showing a slight notch and a trace of waviness; wings of medium size. Flowers usually three, on long, strong stems. Fragrant. Plant of tall, very strong growth.**SNOWFLAKE***Originated by S. Fisher.**Introduced by Breck, 1897.**Description in brief*—A pure white.*Remarks*—One of the first varieties to receive a first-class certificate from an Américan horticultural society, having received this award from the Massachusetts Horticultural Society in 1893.**WHITE TRIUMPH***Originated by Miss Hemus.**Introduced by Miss Hemus, 1908.**Description in brief*—“A large, expanded white.”—Introducer's catalogue.*Comparison*—A white form of Triumph.**ZERO***Originated by Biffen.**Introduced by Miss Hemus, 1907.**Donated by Miss Hemus, 1910.**Description in brief*—An early, pure white variety.

Yellow Shades

DEVONSHIRE CREAM

Originated by Bathurst.*Introduced by* G. H. Mackereth, 1908.*Description in brief* — A large, primrose variety.*Comparison* — Said to be like Shasta in primrose color. Introduced as an improved form of The Honorable Mrs. E. Kenyon.

EARLIEST SUNBEAMS

Originated by Morse.*Introduced by* Burpee, 1904.*Donated by* Boddington.*Description in brief* — An early-flowering, primrose variety.*Description in detail* — Color of standard yellowish white 13 (1-2), back a deeper shade; wings a slightly lighter color. Flower open form; standard notched; wings long and broad. Substance good. Flowers one to three, on medium stems. Moderately fragrant. Bloom early and free. Plant of short height. Leaflets dark green, narrow, pointed. Seed white.*Remarks* — Properly belongs to the winter-flowering type. Sometimes planted with Earliest White and Earliest of All for very early bloom.

HAROLD

Originated by Isaac House & Sons.*Introduced by* House, 1910.*Description in brief* — A primrose variety.*Comparison* — Said to be a cream-colored Shasta.

INCONSTANCY

Originated by Ferry.*Introduced by* Ferry, 1902.*Donated by* Morse, for evolution studies.*Description in brief* — A yellow and white variety.*Description in detail* — Color of standard and wings creamy white 10 (standard 3-4, wings 1-2); the standard fades to 10 (1); the general effect is of yellow and white flowers on the same plant, hence the name. Flower of medium size, open form; standard of medium size, flat, with notched top; wings long and broad, partly open. Flowers on strong stems of medium length. Bloom profuse, continuous. Plant of medium height and slender, healthy growth. Leaflets narrow, pointed; tendrils green. Seed white.

PRIMROSE

Originated by Eckford.*Introduced by* Eckford, 1889.*Description in brief* — A light primrose self, of medium size and open form.*Comparison* — Golden Gleam, Mrs. Eckford, and similar varieties, are larger, finer varieties of this shade.

HOODED VARIETIES

Bicolor

AMERICAN BELLE

Originated by _____.

Introduced by Burpee, 1894.

Description in brief — "Standard bright rose; wings crystal white, with purplish carmine spots." — Introducer's description.

Synonyms — In Bulletin 127 of this station American Belle is said to be Apple Blossom.

APPLE BLOSSOM

Originated by Eckford.

Introduced by Eckford, 1888.

Donated by Boddington, 1910; Burpee, 1911.

Description in brief — Standard rose-pink; wings white, tinged with pink.

Description in detail — Color of standard violet-rose 154 (4) in the center, with lighter edges; wings pale pink 135 (1). Flower of medium size, hooded form; standard of medium size, hooded, with round top; wings long and narrow, concealing the keel. Flowers two to three, on good stems. Very fragrant. Bloom profuse, continuous. Plant of medium growth. Leaflets dark green, narrow, pointed.

Comparison — Has greater contrast between standard and wings than is shown in Royal Rose.

Remarks — Very variable in color.

COQUETTE

Originated by Eckford.

Introduced by Eckford, 1896.

Description in brief — Standard shaded with lavender on a primrose ground; wings primrose.

CROWN JEWEL

Originated by Eckford.

Introduced by Eckford, 1896.

Description in brief — Tinted and veined with violet-rose on a primrose ground.

DAWN

Originated by G. Stark & Son.

Introduced by Stark.

Description in brief — Standard light crimson-magenta; wings white, shaded crimson.

EMILY LYNCH

Originated by Lynch.

Introduced by Lynch, 1897.

Donated by Morse, for evolution studies.

Description in brief — Standard rose; wings rose on a primrose ground.

Description in detail — Color of standard violet-rose 154 (4); wings mauve-rose 153 (1) on a primrose-tinted ground. Flower small to medium, hooded form; standard small to medium, hooded, with notched top and sides; wings short and broad, partly open. Flowers two, on short or medium stems. Very fragrant. Bloom profuse, continuous. Burns slightly in hot sunshine. Plant of medium height and slender growth. Leaflets narrow, pointed; tendrils colored at first, changing to green.

Comparison — Superseded by Jeannie Gordon.

Remarks — One of the first of the Apple Blossom group.

HILDA JEFFREY

Originated by C. W. Breadmore.

Introduced by Breadmore, 1908.

Description in brief — "Delicate rose shaded cream." — Gardener's World, 1908, page 82.

Comparison — Is said to be an improvement on Jeannie Gordon.

JEANNIE GORDON*Originated by Eckford.**Introduced by Eckford, 1902.**Donated by Boddington, Burpee.**Description in brief* — A bright rose on a cream ground.*Description in detail* — Color of standard deep rose-pink 120 (1-2); wings rosy pink 118 (1) on a primrosy ground; base of standard often has a trace of primrose color. Flower medium large, hooded; standard medium large, hooded, with round top; wings long and broad, partly open. Flowers two to three, irregularly placed on long, strong stems. Moderate fragrance. Bloom profuse, continuous. Plant of medium height and strong growth. Leaflets narrow, pointed; tendrils green.*Comparison* — Emily Lynch is very similar in color, but is smaller.*Remarks* — The best of the old type in this color.**LADY SKELMERSDALE***Originated by Eckford.**Introduced by Eckford, 1899.**Description in brief* — "Standard bright rosy lilac; wings slightly shaded bright rosy lilac." — Burpee's catalogue.**MRS. E. GILMAN***Originated by Eckford.**Introduced by Eckford, 1910.**Description in brief* — A pale rose bicolor.**ROYAL ROSE***Originated by Eckford.**Introduced by Eckford, 1896.**Donated by Morse, 1910; Burpee, 1911.**Description in brief* — Standard pink; wings rose, with lighter edges.*Description in detail* — Color of standard violet-rose 154 (4), back 155 (1-2); wings violet-rose 154 (1-2). Flower large, hooded; standard large, hooded, with round top; wings long and broad, partly open. Flowers two to three, on long, strong stems. Very fragrant. Bloom profuse, continuous. Plant of tall, strong growth.*Comparison* — The waved form of this variety is Apple Blossom Spencer.**TWEEDY SMITH***Originated by Breadmore.**Introduced by Breadmore, 1907.**Description in brief* — "Standard light magenta lilac; wings light cream." — Morse's Field Notes on Sweet Peas.**Blue and Purple Shades (Bright Blue group)****ENID***Originated by Miss Hemus.**Introduced by Miss Hemus, 1909.**Donated by Miss Hemus, 1910.**Description in brief* — A deep blue variety.*Description in detail* — Color of standard and wings aniline blue 202 (1-2); wings deeper than standard. Flower of medium size, hooded form; standard of medium size, slightly hooded, with round top; wings long and narrow, partly open. Flowers two, on medium stems. Very fragrant. Sunproof. Suitable for home decoration. Plant of medium height, slender, healthy. Tendrils green. Seed round, mottled.*Comparison* — The general effect is lighter than Eileen and deeper than Flora Norton.

Blue and Purple Shades (Purple standard, blue wings)**CAPTAIN OF THE BLUES***Originated by* Eckford.*Introduced by* Eckford, 1889.*Donated by* Morse, 1910; Burpee, 1911.*Description in brief* — Standard bright violet-purple, wings lavender-blue.*Description in detail* — Color of standard bright violet-purple 190 (3-4); wings lavender-blue 204 (1-2). Flower of medium size, hooded form; standard of medium size, slightly hooded, with round top; wings of medium size, broad, partly open. Flowers three, equidistant on long, strong stems. Very fragrant. Bloom profuse. continuous. Plant tall, of moderately strong growth. Leaflets narrow, pointed, *Comparison* — Imperial Blue is an inferior form of this. Baden Powell is considered to be the same.*Remarks* — Offered in the United States by Farquhar in 1891.**COUNTESS CADOGAN***Originated by* Eckford.*Introduced by* Eckford, 1899.*Donated by* Boddington, 1910; Burpee, 1911.*Description in brief* — Standard bluish purple, wings blue.*Description in detail* — Color of standard bright violet-purple 190 (2), becoming more blue at the base, back violet-purple 192 (2); wings bluish violet 203 (1), losing the purple shading, becoming light blue, back 203 (4). Flower large, hooded form; standard large, hooded, with round top; wings long and broad, partly open. Flowers two to three, usually two, on medium stems. Plant of tall, strong growth. Tendrils show some color.**DAVID R. WILLIAMSON***Originated by* Eckford.*Introduced by* Eckford, 1905.*Donated by* Morse, 1910; Burpee, 1911.*Description in brief* — Standard bluish purple, wings lavender-blue.*Description in detail* — Color of standard bright violet-purple 190 (2), back 192 (2); wings lavender-blue 204 (2); keel same as wings. Flower large, hooded form; standard large, slightly hooded, with round top; wings long and broad, partly open. Flowers two to three, usually two, equidistant on long, strong stems. Very fragrant. Bloom profuse. Plant of tall, strong, healthy growth. Leaflets pointed; tendrils green.**DUKE OF WESTMINSTER***Originated by* Eckford.*Introduced by* Eckford, 1900.*Donated by* Boddington, 1910; Burpee, 1911.*Description in brief* — Standard purple, wings blue.*Description in detail* — Color of standard bishop's violet 189 (4); wings aniline blue 202 (2). Flower large, hooded form; standard large, slightly hooded, with round top; wings long and broad; keel same as wings. Flowers two to three, on long, strong stems. Very fragrant. Bloom profuse. A garden or exhibition variety. Plant of tall, strong growth. Leaflets narrow, pointed; some plants possess axillary color.*Remarks* — One of the best of the old varieties.

IMPERIAL BLUE*Originated by* Eckford.*Introduced by* Eckford, 1887.*Donated by* Morse, for evolution studies.*Description in brief* — Standard purple, wings light blue.*Description in detail* — Color of standard rich pansy-violet 192 (1-2), back 191 (4); wings bishop's violet 189 (4), shaded lavender-blue 204 (1). Flower of medium size, hooded form; standard of medium size, hooded, with notched sides; wings long and narrow. Bloom profuse.*Comparison* — Captain of the Blues is a large, improved form of this variation.*Synonyms* — Madam Carnot is said to be the same variety. Grand Blue is the same.**MADAME CARNOT***Originated by* Laxton.*Introduced by* Laxton, 1892.*Description in brief* — A small, inferior form of Captain of the Blues.*Synonyms* — Morse states that Imperial Blue is the same variety.**WAVERLY***Originated by* Eckford.*Introduced by* Eckford.*Description in brief* — Standard purple, wings blue.*Comparison* — Duke of Westminster is similar but larger.**Blue and Purple Shades (Violet and Indigo group)****BRILLIANT BLUE***Originated by* —————.*Introduced by* Burpee, 1907.*Description in brief* — A dark navy blue variety.*Description in detail* — Color of standard bluish violet 203 (4-5); wings light bluish violet 202 (4), changing to bluish violet 203 (4). Flower large, hooded form; standard large, slightly hooded, with round top; wings medium broad, partly open to spreading. Flowers two to three, usually three, on strong stems of medium length. Bloom profuse. Plant of tall, strong growth.*Synonyms* — Same as Lord Nelson (House, 1907).*Remarks* — The best dark blue of the old type.**LORD NELSON***Originated by* House.*Introduced by* House, 1907.*Donated by* Boddington, 1910.*Description in brief* — A dark navy blue variety.*Description in detail* — (See description of Brilliant Blue.)*Synonyms* — This is the name used in Great Britain for Brilliant Blue.**NAVY BLUE***Originated by* James Sproule.*Introduced by* Burpee, 1899.*Description in brief* — General effect is dark blue; standard lavender-blue, wings bluish violet.*Description in detail* — Color of standard lavender-blue 204 (4-5); wings bluish violet 203 (4), becoming slightly more purple. Flower medium to large, hooded form; standard medium large, slightly hooded, sometimes slightly notched at top; wings

broad and moderately long, partly open. Flowers two to three, equidistant on strong stems of medium length. Moderately fragrant. Plant of tall, strong growth. Leaflets pointed; tendrils green; no axillary color.

Blush

ACME

Originated by _____.

Introduced by Jones, 1908.

Description in brief — A blush-white variety.

Comparison — Said to be a blush Dorothy Eckford.

AGNES ECKFORD

Originated by Eckford.

Introduced by Eckford, 1907.

Donated by Morse, 1910; Burpee, 1911.

Description in brief — A very light pink self.

Description in detail — Color of standard and wings mauve-rose 153 (1-2). Flower above medium size, hooded form; standard above medium size, hooded, with round top; wings long and partly open. Flowers three, equidistant on long stems. Very fragrant. Plant of tall, strong growth. Leaflets narrow, pointed; tendrils colored at first, becoming green when fully developed; axillary color in peduncles and leaflets.

Comparison — Larger and better than California.

BLUSHING BEAUTY

Originated by Eckford.

Introduced by Eckford, 1893.

Donated by Burpee, 1910.

Description in brief — Medium size, light pink.

Description in detail — Color of standard and wings mauve-rose 153 (1); standard becomes paler at the edges. Flower of medium size, hooded form; standard of medium size, extremely hooded, without apical notch; wings of medium size but long, partly open. Flowers usually two, on long stems of moderate strength. Moderately productive. Plant of tall, strong growth.

Comparison — California is similar, but is lighter in color. Royal Robe is similar, but darker. Prima Donna is darker, larger, and superior in every respect.

CALIFORNIA

Originated by Lynch.

Introduced by Lynch, 1897.

Donated by Morse, 1910.

Description in brief — A small, very light pink variety.

Description in detail — Color of standard pale rosy pink 129 (1-2); wings lilac white 7 (4). Flower small, hooded form; standard small, much hooded, often curled; wings of medium size, long, partly open. Flowers usually two, on long stems of moderate strength. Moderately productive. Plant of tall, strong growth.

Comparison — Agnes Eckford is much superior. Blushing Beauty is similar, but darker.

COTTAGE MAID

Originated by _____.

Introduced by Sutton.

Description in brief — Pale blush on white.

COUNTESS OF ABERDEEN*Originated by* Eckford.*Introduced by* Eckford, 1895.*Description in brief* — A pale pink variety.**DELICATA***Originated by* —.*Introduced by* Stark, 1906.*Description in brief* — White, tinted pink.*Synonyms* — Considered same as Modesty.**DUCHESS OF SUTHERLAND***Originated by* Eckford.*Introduced by* Eckford, 1898.*Description in brief* — Silvery white, tinted pink.*Synonyms* — Same as Modesty.**EVELYN BREADMORE***Originated by* Breadmore.*Introduced by* Breadmore, 1906.*Description in brief* — Shining white, with slight tinge of pink in standard.**LADY ABERDARE***Originated by* —.*Introduced by* Breadmore, 1904.*Description in brief* — "Soft light pink self." — Sweet Pea Annual.**MRS. S. T. WALKER***Originated by* Walker.*Introduced by* Walker, 1898.*Description in brief* — Pale blush-pink, hooded.**MODESTY***Originated by* Morse.*Introduced by* Burpee, 1898.*Donated by* Burpee, 1911.*Description in brief* — Silvery white, tinted pink.**SENSATION***Originated by* Morse.*Introduced by* Burpee, 1898.*Description in brief* — Standard very light pink and buff; wings white.*Comparison* — A hooded Alice Eckford.**Carmine and Rose** (Carmine group)**COLONIST***Originated by* Eckford.*Introduced by* Eckford, 1898.*Description in brief* — A bright rose-crimson, changing to purplish crimson.**MRS. DUGDALE***Originated by* Eckford.*Introduced by* Eckford, 1899.*Donated by* Burpee, 1911.*Description in brief* — Large, slightly hooded, crimson-rose on a primrose ground.*Description in detail* — Flower large, hooded; standard large, slightly hooded; wings large, long and broad.

MRS. R. M. SHELTON*Originated by* _____.*Introduced by* Bakers, 1909.*Description in brief* — A hooded, rosy carmine self.**CARMINE AND ROSE (Rose group)****BRITISH QUEEN***Originated by* Angus.*Introduced by* _____.*Description in brief* — A double form of Her Majesty.*Remarks* — This was shown by Mr. Angus, Norwood Hall, Aberdeen, and received a First Class Certificate from the Royal Caledonian Horticultural Society in 1898.**CYRIL BREADMORE***Originated by* Breadmore.*Introduced by* Breadmore, 1906.*Description in brief* — A slightly hooded, rosy carmine variety.*Synonyms* — Practically the same as Lord Roseberry.**ESMERALDA***Originated by* _____.*Introduced by* Kelway & Son.*Description in brief* — "A distinct shade of rose." — Kelway Manual, 1911.**HER MAJESTY***Originated by* Eckford.*Introduced by* Eckford, 1892.*Description in brief* — Large, hooded, rose-crimson self.**MAJESTIC***Originated by* Morse.*Introduced by* Burpee, 1901.*Description in brief* — Large, hooded, rose-red on a primrose ground.**ODDITY***Originated by* Morse.*Introduced by* Burpee, 1896.*Donated by* Morse, for evolution studies.*Description in brief* — Deep pink, with deeper edges; wings lighter pink.*Description in detail* — Color of standard violet-rose 154 (3-4); wings violet-rose 154 (1). Flower of medium size; standard of medium size, reflexed or crumpled, with notched sides; wings long and narrow, some wings twisted or curled, concealing the keel. Many flowers are double. Flowers two or three, irregularly placed on long stems of medium strength. Bloom profuse, continuous. Burns slightly. Plant of slender growth. Leaflets narrow, pointed; tendrils green.*Remarks* — Name given because of the form of the flowers; expresses value also.**OVID***Originated by* Eckford.*Introduced by* Eckford, 1893.*Donated by* Morse, for evolution studies.*Description in brief* — Standard purple-rose, wings violet-rose.*Description in detail* — Color of standard purple-rose 150 (1-2); wings violet-rose 154 (1), back a deeper color; well-matured flowers are very bright. Flower of medium size, hooded form; standard of medium size, hooded, wings long and broad, con-

cealing the keel. Flowers two, on medium stems. No apparent fragrance. Bloom profuse, continuous. Burns slightly in very hot sunshine. Plant of medium height and slender growth. Leaflets narrow, pointed.

Comparison — Novelty and Miss Hunt are the same color, but are smaller and open form.

PRINCE OF WALES

Originated by Eckford.

Introduced by Eckford, 1898.

Donated by Morse, 1910; Burpee, 1911.

Description in brief — A large, hooded, rose-crimson variety.

Description in detail — Color of standard and wings violet-rose 154 (4-5). Flower large, hooded form; standard large, slightly hooded; wings long and broad, concealing the keel. Flowers two to three, on long, strong stems. Fragrance none. Bloom profuse, continuous. A garden variety. Plant of tall, stout, vigorous, healthy growth. Color sometimes shown in axils of leaves and tendrils.

Comparison — Her Majesty and Splendour are smaller and less bright.

Remarks — Represents the greatest advance made in the hooded varieties of this color.

SPLENDOUR

Originated by Eckford.

Introduced by Eckford, 1888.

Donated by Morse, for evolution studies.

Description in brief — A large, hooded, rose-crimson variety.

Description in detail — Color of standard Tyrian rose 155 (1); wings Tyrian rose 155 (1-2). Flower large, hooded form; standard large, hooded, with round and looped top; wings long and broad, concealing the keel. Flowers two to three, on long, strong stems. Very fragrant. Bloom profuse, continuous. Sunproof. Plant of medium height and slender growth. Leaflets narrow, pointed, dark green; tendrils colored.

Cerise

ANNIE B. GILROY

Originated by Eckford.

Introduced by Eckford, 1909.

Description in brief — "A deep cerise." — Sweet Pea Annual.

Comparison — Introduced as an improved Coccinea.

Remarks — No longer catalogued by the introducer.

COCCINEA

Originated by Eckford.

Introduced by Eckford, 1901.

Donated by Morse, 1910; Burpee, 1911.

Description in brief — A bright cerise self.

Description in detail — Color of standard and wings crimson-red 114 (1). Flower below medium size, hooded; standard of medium size, slightly hooded, with round top; wings long and narrow, concealing the keel. Moderately fragrant. Bloom profuse, continuous. Flowers two to three, usually two. Burns badly. Plant of medium height and slender growth. Leaflets narrow, pointed, blue-green; tendrils short, colored. Habit distinct.

PRINCESS MAUD OF WALES

Originated by Eckford.

Introduced by Eckford, 1906.

Description in brief — "A pale coccinea." — Sweet Pea Annual.

Remarks — No longer catalogued by the originator.

Cream-Pink*Originated by* Tuttle.**CORAL GEM***Donated by* Vaughan, 1910.*Introduced by* Vaughan, 1907.*Description in brief* — A soft, light cream-pink.*Description in detail* — Color of standard and wings mauve-rose 153 (1-2); center stripe of standard 153 (4). Flower of medium size; standard of medium size, hooded, with round top; wings long and broad. Very fragrant. Bloom profuse.**COUNTESS OF LATHOM***Originated by* Eckford.*Introduced by* Eckford, 1900.*Donated by* Morse, 1910; Burpee, 1911.*Description in brief* — A cream-pink self.*Description in detail* — Color of standard mauve-rose 153 (2); wings mauve-rose 153 (1-2); both on a primrose ground. Flower of medium size, hooded form; standard of medium size, hooded, with round top; wings broad, partially spreading. Flowers two to three, borne on long stems of medium strength. Moderately fragrant. A moderately productive variety. Plant of tall, vigorous growth. Tendrils green.*Comparison* — Color is between Venus and Honorable F. Bouverie.**GRACIE GREENWOOD***Originated by* Eckford.*Introduced by* Eckford, 1902.*Description in brief* — A slightly hooded flower; cream, shaded delicate pink.**G. W. KERR***Originated by* —.*Introduced by* Bakers, 1910.*Description in brief* — Coral-pink, deeper shade on edge.**HONORABLE F. BOUVERIE***Originated by* Eckford.*Introduced by* Eckford, 1899.*Donated by* Morse, 1910.*Description in brief* — A deep pink on a primrose ground. The edges are very light pink, the color deepening toward the center.*Description in detail* — Color of standard and wings mauve-rose 153 (1-3) on a creamy white 10 (3-4) ground. Flower of medium size, hooded form; standard of medium size, slightly hooded, with round top; wings short and narrow, partly open. Flowers three, equidistant on long stems. Very fragrant. Bloom profuse. Plant of tall, strong growth. Leaflets broad, pointed; tendrils green.*Comparison* — Is Lovely on a primrose ground.**JANET SCOTT***Originated by* Morse.*Introduced by* Burpee, 1903.*Donated by* Boddington, Burpee, 1910.*Description in brief* — Bright pink, tinged with buff.*Description in detail* — Color of wings and standard mauve-rose 153 (2-3); standard shows traces of yellow, which is more pronounced in the upper flower as well as in the bud. Flower large, hooded form; standard large, hooded, with round top;

wings long, upright, and pointed. Flowers two to three, usually three, equidistant on long, strong stems. Moderately fragrant. Plant of tall, strong growth. Leaflets broad, pointed; tendrils colored until mature.

Remarks — One of the best-known varieties.

MISS BOSTOCK

Originated by ——————

Introduced by Miss Hemus, 1907.

Description in brief — Cream-pink.

MRS. CHARLES MASTERS

Originated by Eckford.

Introduced by Eckford, 1909.

Description in brief — "Standard rosy salmon, wings cream." — Sweet Pea Annual.

QUEEN OF SPAIN

Originated by Eckford.

Introduced by Eckford, 1907.

Donated by Boddington, 1910; Burpee, 1911.

Description in brief — "A pearly pink self." — Sweet Pea Annual.

Description in detail — Color of standard and wings mauve-rose 153 (1). Flower of medium size, hooded form; standard of medium size, hooded, with round top; wings long and broad, spreading. Flowers two to three, on medium stems. Moderately fragrant. Bloom profuse. A fine garden variety. Plant of distinct character; growth strong and vigorous. Tendrils profusely colored; color in axils of peduncles, leaves, and leaflets; flower stems also tinged brown.

Comparison — On the grounds at this station this variety is more productive than Countess of Lathom.

VENUS

Originated by Eckford.

Introduced by Eckford, 1893.

Donated by Burpee, 1910, 1911.

Description in brief — A hooded variety; flowers salmon-buff, shaded pink.

Description in detail — Color of standard and wings mauve-rose 153 (1-2) on a primrose ground. Flower of medium size, hooded form; standard of medium size, hooded, with round top; wings short, partly open. Flowers two to three, on medium wiry stems. Very fragrant. Plant of tall, slender growth. Tendrils green.

Remarks — As the season advances, the flowers have more pink color.

Crimson and Scarlet (Crimson group)

BOB

Originated by ——————.

Introduced by Jones, 1908.

Description in brief — "A deep red with wings tinted rose." — Sweet Pea Annual.

BRILLIANT

Originated by Morse.

Introduced by Burpee, 1897.

Donated by Burpee.

Description in brief — A slightly hooded, crimson-scarlet variety.

Description in detail — Color of standard carmine-purple 156 (2-3); wings Tyrian rose 155 (1). Flower of medium size, slightly hooded form; standard of medium size, slightly hooded, with round top; wings long and broad, concealing the keel.

Substance poor. Flowers two to three, usually two, on medium stems. Bloom profuse and continuous. Burns badly. Plant of medium height, with slender haulms, but makes a heavy row.

Comparison — Same color as Ignea in standard, but Brilliant has less contrast in wings.

HARVARD

Originated by —————.

Introduced by Breck, 1894.

Synonymns — In Bulletin 127 of this station this is said to be Ignea.

IGNEA

Originated by Eckford.

Introduced by Eckford, 1892.

Donated by Morse, for evolution studies.

Description in brief — Crimson-scarlet wings, tinged with purplish crimson.

Description in detail — Color of standard carmine-purple 156 (2); wings solferino-red 157 (1). Flower of medium size, slightly hooded form; standard medium hooded, with round top and apical fold; wings long and narrow, concealing the keel. Flowers two, on strong stems of medium length. Flower burns badly, the veins soon blackening or taking on a sickly purple hue. Plant of medium height. Leaflets narrow, pointed.

MARS

Originated by Eckford.

Introduced by Eckford, 1896.

Description in brief — A hooded, rich crimson self.

MILLIE MASLIN

Originated by Holmes.

Introduced by Sydenham, 1908.

Donated by Burpee, 1911.

Description in brief — A very dark crimson-red.

Description in detail — Color of standard lilac-purple 160 (3-4), veined darker; wings lilac-purple 160 (1-2), often with more purple shading. Flower medium large, hooded form; standard medium to large, slightly hooded; wings long and narrow. Flowers two to three, on medium stems. Very fragrant. Bloom moderately profuse. Plant of medium height and slender growth. Leaflets narrow, pointed; tendrils green.

SALOPIAN

Originated by Eckford.

Introduced by Eckford, 1897.

Donated by Boddington, 1910.

Description in detail — Color of standard crimson-carmine 159 (4); wings crimson-carmine 159 (2), back 159 (4). Flower of medium size, hooded form; standard of medium size, slightly hooded; wings of medium size, concealing the keel. Flowers two to three, on medium stems. Fragrance none. Bloom profuse. Sunproof. Plant of medium height and stout growth. Tendrils colored.

Comparison — This variety was superseded by King Edward VII. Salopian is a deeper, richer color, especially in the wings, than Brilliant or Mars.

Remarks — The original Salopian burned badly under a hot sun. By selection a strain was secured which exhibited little or no burning. The trial at this station was probably with this form. A pure stock.

SUNPROOF SALOPIAN*Originated by* _____.*Introduced by* Burpee, 1900.*Donated by* Burpee, 1910.*Description in brief* — A sunproof strain of Salopian.*Remarks* — No difference was noted in the trials at this station. It is probable that the Sunproof Salopian was supplied, at least to all American customers, instead of the Salopian, owing to the fact that the latter was subject to burning under our hot suns.**Crimson and Scarlet** (Scarlet group)**KESTON RED***Originated by* _____.*Introduced by* Jones, 1908.*Description in brief* — A rich scarlet.*Remarks* — Was introduced as an improved Scarlet Gem. Not in the trade at the present time.**QUEEN ALEXANDRA***Originated by* Eckford.*Introduced by* Eckford, 1906.*Donated by* Boddington, Rawson, 1910; Burpee, 1911.*Description in brief* — A bright, intense, scarlet self.*Description in detail* — Color of standard and wings French purple 161 (2). Flower of medium size, hooded form; standard of medium size, slightly hooded, with round top; wings long and broad, concealing the keel. Flowers two to three, on long, strong stems. Plant of medium height and slender growth. Leaflets narrow, pointed.**Dark Shades** (Maroon group)**ADMIRAL TOGO***Originated by* Breadmore.*Introduced by* Breadmore, 1906.*Description in brief* — "Extremely dark violet maroon." — Sweet Pea Annual. Flowers hooded.**BLACKBIRD***Originated by* Sharpe.*Introduced by* Bolton, 1908.*Donated by* Rawson, 1910.*Description in brief* — A very dark maroon variety.*Description in detail* — Color of standard dark purple 191 (4); wings dark purple 191 (1). Flower medium to large, hooded form; standard medium to large, hooded, with round top; wings long and broad, concealing the keel. Flowers two to three, usually two, on long, strong stems. Bloom profuse, continuous. Sunproof. Plant of tall, strong growth. Leaflets broad, pointed; tendrils green.*Synonyms* — Midnight (Burpee, 1908).**BLUE BIRD***Originated by* _____.*Introduced by* Strong.*Description in brief* — "Flowers medium size. Standard hooded. Color, dark purple-red. Bloom medium." — Bulletin 111 of this station.

HANNAH DALE*Originated by* Dobbie.*Introduced by* Dobbie, 1908.*Donated by* Dobbie, 1910.*Description in brief* — A deep maroon self.*Description in detail* — Color of standard and wings deep carmine-violet 174 (4).

Flower large, slightly hooded form; standard above large, slightly hooded, with notched top; wings long and broad, concealing the keel. Flowers two to three, on long, strong stems. Fragrance moderate. Bloom profuse, continuous. Plant of medium height and strong growth. Leaflets narrow, pointed; tendrils green.

Remarks — The flowers decrease rapidly in size.**MIDNIGHT***Originated by* —————.*Introduced by* Burpee, 1908.*Description in brief* — Deep maroon and indigo.**NIGGER***Originated by* House.*Introduced by* House, 1905.*Description in brief* — "Nearly black." — Sweet Pea Annual.**Dark Shades (Maroon and Bronze group)****H. J. R. DIGGES***Originated by* Eckford.*Introduced by* Eckford, 1908.*Description in brief* — "A bright claret shaded maroon." — Eckford's catalogue.**JET***Originated by* Hugh Aldersey.*Introduced by* Sydenham, 1909.*Description in brief* — Standard very dark maroon; wings very dark indigo.*Synonyms* — Considered the same as Midnight (Burpee, 1908).**OTHELLO***Originated by* Eckford.*Introduced by* Eckford, 1899.*Donated by* Boddington, 1910; Burpee, 1911.*Description in brief* — A deep maroon self.

Description in detail — Back of standard dull. Flower large, hooded form; standard large, hooded, with round top; wings large, long and broad, concealing the keel. Substance good. Flowers generally three, on long, strong stems. Fragrance little or none. Plant of tall, strong, robust growth. Leaflets narrow, pointed.

SHAHZADA*Originated by* Eckford.*Introduced by* Eckford, 1897.*Donated by* Boddington, 1910.*Description in brief* — A very dark maroon and purple variety.

Description in detail — Color of standard dark purple 191 (4); wings violet-purple 192 (2-3). Flower of medium size, hooded; standard slightly hooded, with round top; wings of medium size, long, partly open. Flowers two to three, usually two, on short, weak stems.

Comparison — Has standard of the same color as Othello, but the wings are different.*Remarks* — Said to be a cross between Stanley and Her Majesty.

Dark Shades (Maroon and Violet group)**DOUBLE DUKE OF CLARENCE***Originated by* ——————*Introduced by* Burpee, 1896.*Donated by* Morse, for evolution studies.

Description in detail — Color of standard deep carmine-violet 174 (4-5); wings rich pansy-violet 191 (1). Flower of medium size, hooded form, double; standard of medium size, hooded, sometimes two on lower flower of the spike; wings long and broad. Flowers two to three, on long, strong stems. Plant of tall, vigorous growth.

DUDLEY LEES*Originated by* Breadmore.*Introduced by* Breadmore, 1908.*Description in brief* — A slightly hooded, deep maroon variety.*Comparison* — Introduced as an improved Black Knight.**DUKE OF CLARENCE***Originated by* Eckford.*Introduced by* Eckford, 1893.*Description in brief* — "A rich dark claret." — Hutchins' catalogue.*Comparison* — Double Duke of Clarence is the double form of this.**DUKE OF SUTHERLAND***Originated by* Eckford.*Introduced by* Eckford, 1898.*Donated by* Boddington, 1910.*Description in brief* — Standard dark violet, wings deep violet-blue.

Description in detail — Color of standard dark violet 192 (2-3); wings violet-purple 192 (2-3). Flower medium large, hooded form; standard medium large, hooded, with round top; wings long and broad, partly open. Flowers three, on strong stems of medium length. Bloom profuse. Sunproof. Plant of tall, strong growth. Leaflets broad, pointed; tendrils green.

HORACE WRIGHT*Originated by* Eckford.*Introduced by* Eckford, 1907.*Donated by* Burpee, 1910.

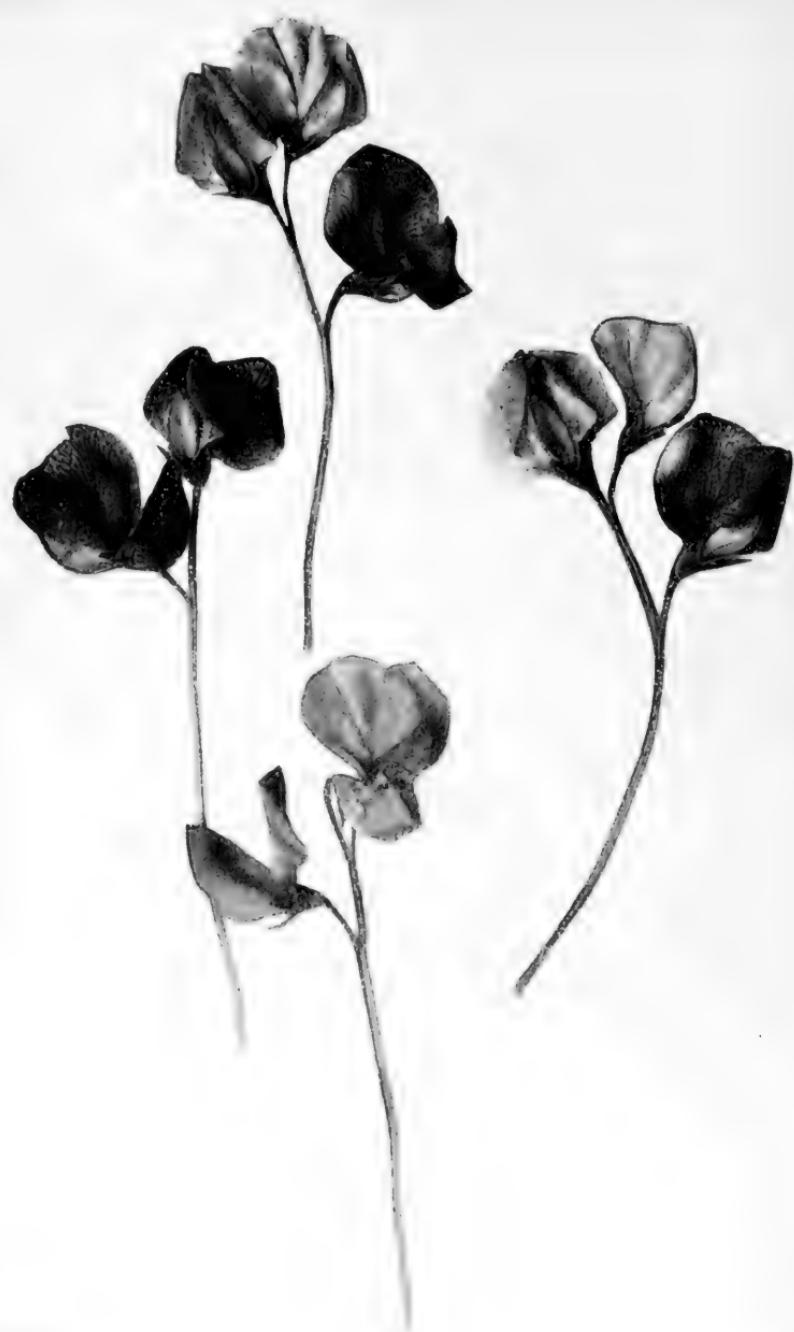
Description in detail — Color of standard deep purple 185 (4); wings bright violet-purple 190 (4), back rich pansy-violet 191 (1). Flower large, hooded form; standard large, slightly hooded, with round top; wings long and broad, concealing the keel. Flowers two to three, on medium stems. Fragrant. Sunproof. Plant of tall, strong growth. Leaflets broad, pointed; tendrils colored; color appears in axils.

Comparison — Indigo King has the same colors but is inferior in every respect.**IMPROVED DUDLEY LEES***Donated by* Bide, 1912.*Description in brief* — A dark maroon and purple variety.

Description in detail — Color of standard plum-violet 172 (4 or darker); wings plum-violet 172 (4) to deep purple 185 (4). Flower large, hooded form; standard large, slightly hooded; wings long and drooping. Flowers two to three, on strong stems of moderate length. Fragrance moderate. Bloom profuse. Plant of medium height and slender growth. Leaflets broad; tendrils green.



Double Duke of Clarence



Lord Roseberry

Comparison — Is larger and darker, and blooms better, than Black Michael. Very similar to Kelway Black. Larger than Black Knight.

Remarks — A very rich, dark-colored flower. Dudley Lees was sent out by Breadmore in 1908.

INDIGO KING

Originated by Eckford.

Introduced by Eckford, 1886.

Donated by Morse, for evolution studies.

Description in brief — A deep violet-blue.

Description in detail — Color of standard deep carmine-violet 174 (4); wings bright violet-purple 190 (2). Flower under medium size, hooded form; standard under medium size, hooded, notched at side, wings long and narrow. Moderately productive. Plant of medium height.

Comparison — Monarch is somewhat similar in color. Horace Wright is the best variety of these colors.

Synonyms — Autocrat (Henderson, 1888) is the same variety.

KELWAY BLACK

Originated by —————.

Introduced by Kelway, 1912.

Donated by Kelway, 1912, 1913.

Description in brief — A deep maroon variety.

Description in detail — Color of standard purple-brown 166 (3-4), veined with plum-violet; wings plum-violet 172 (2-3). Flower large, hooded form; standard large, reflexed, with notched top and broad base; wings long and broad. Substance good. Flowers two to three, on medium stems. Very fragrant. Bloom profuse. Plant of medium height and slender growth. Leaflets narrow, pointed; tendrils green.

Comparison — Similar to Black Knight.

MONARCH

Originated by Eckford.

Introduced by Eckford, 1891.

Donated by Morse, for evolution studies.

Description in brief — A deep maroon-violet.

Description in detail — Color of standard plum-violet 172 (4); wings bright violet-purple 190 (4), back rich pansy-violet 191 (1-2). Flower of medium size, hooded form; standard of medium size, slightly hooded; wings long and narrow. Moderately productive. Plant of medium height.

Comparison — Indigo King is smaller and less desirable. Duke of Sutherland is larger and has more blue in the wings.

PURPLE KING

Originated by Eckford.

Introduced by Eckford, 1908.

Description in brief — A very large, purple flower.

PURPLE PRINCE

Originated by Eckford.

Introduced by Eckford, 1889.

Donated by Morse, for evolution studies.

Description in detail — Color of standard and wings 190 (2-4); standard deeper than wings. Flower of medium size, hooded; standard of medium size, hooded.

Fancy**DORA BREADMORE***Originated by Breadmore.**Introduced by Breadmore, 1906.**Donated by Boddington, 1910.**Description in brief* — A slightly hooded primrose self, shaded buff.*Description in detail* — Standard and wings fleshy white 9 (3-4). Flower of medium size, hooded form; standard of medium size, slightly hooded, with round top; wings short and broad, partly open. Flowers three, irregularly placed on strong stems of moderate length. Very fragrant. Bloom moderate. Plant of tall, moderately strong growth.*Comparison* — Somewhat similar to Lady M. Ormsby Gore, but lighter.**LADY M. ORMSBY GORE***Originated by Eckford.**Introduced by Eckford, 1901.**Donated by Boddington, 1910.**Description in brief* — A very light primrose.*Description in detail* — Color of standard and wings amber-white 12 (1). Flower of medium size, hooded form; standard of medium size, extremely hooded, with round top; wings long and broad, spreading. Flowers two to three, usually three, irregularly placed on long, strong stems. Very fragrant. Bloom profuse. Plant of tall, strong growth. Leaflets pointed; tendrils colored.*Comparison* — Coquette is said to have had more pink color. Queen Victoria has less substance, more primrose color, and a pinkish tint in the standard.*Remarks* — On this soil and with the hot sunshine, no pink was noticed.**MARCHIONESS OF CHOLMONDELEY***Originated by Eckford.**Introduced by Eckford, 1904.**Donated by Boddington, 1910; Burpee, 1911.**Description in brief* — Cream, overlaid with pink.*Description in detail* — Color of standard pale rosy pink 129 (1); wings very lightly tinted pale rosy pink 129 (1); both on a cream ground. Flower of medium size, hooded form; standard of medium size, hooded, with round top; wings short and broad, spreading. Flowers two, equidistant on strong stems of medium length. Bloom profuse. Plant of tall, strong growth. No color in axils.*Comparison* — This variety has lighter wings than Venus, which it resembles in the standard.**MRS. FITZGERALD***Originated by Eckford.**Introduced by Eckford, 1900.**Synonyms* — This is reported as being the same as the variety Stella Morse (Burpee, 1898).**MRS. H. KENDALL BARNES***Originated by* _____.*Introduced by Dobbie, 1903.**Description in brief* — Standard cream, tinted a very light pink; wings light primrose.*Comparison* — Differs from Lady M. Ormsby Gore in having pink in the standard.

STELLA MORSE*Originated by Morse.**Introduced by Burpee, 1898.**Donated by Boddington, 1910; Burpee, 1911.**Description in brief* — Cream, tinted pink.*Description in detail* — Color of standard and wings amber-white 12 (1), tinted lilacy white 7 (4); deeper color at edges; general effect is creamy yellow; buds very yellow. Flower of medium size, hooded form; standard of medium size, slightly hooded, with round top; wings short and broad, spreading. Flowers three, irregularly placed on long, strong stems. Moderately fragrant. Bloom profuse. Plant of tall, strong growth. Leaflets narrow, pointed; tendrils green.*Comparison* — Modesty and Duchess of Sutherland are the same, but on a white ground.*Synonyms* — Mrs. Fitzgerald is a synonym.**SUE EARL***Originated by Morse.**Introduced by Burpee, 1903.**Donated by Burpee, 1910.**Description in brief* — Primrose, with a shading of mauve-rose; wings primrose.*Description in detail* — Color of standard amber-white 12 (1-2); wings amber-white 12 (2-3); the standards of the lower blossoms take on a tinge of mauve-rose. Flower of medium size, hooded form; standard of medium size, hooded; wings long and broad.*Remarks* — Sent out for trial in 1902. Said to have been a cross between Lottie Eckford and Mrs. Eckford.**Lavender****CELESTIAL***Originated by C. Lorenz.**Introduced by Lorenz, 1896.**Synonyms* — (See New Countess.)**COUNTESS OF RADNOR***Originated by Eckford.**Introduced by Eckford, 1890.**Donated by Burpee, 1910, 1911.**Description in brief* — A lavender variety.*Description in detail* — Color of standard heliotrope 188 (1-2); wings heliotrope 188 (1). Flower of medium size; standard of medium size; wings medium long and narrow. Flowers two to three. Very fragrant. Bloom profuse. Suitable for home decoration.*Comparison* — Soon after it was sent out, Countess of Radnor had too much red in the standard. New Countess and Celestial were improvements in color.**FLORIST LAVENDER***Originated by* —*Introduced by Bath, 1909.**Comparison* — Said to be a sport of Navy Blue.**J. T. CRIER***Originated by Breadmore.**Introduced by Breadmore, 1907.**Description in brief* — A lavender self.

LADY COOPER*Originated by* Breadmore.*Introduced by* Breadmore, 1906.*Description in brief* — A slightly hooded, clear lavender self.**LADY GRIZEL HAMILTON***Originated by* Eckford.*Introduced by* Eckford, 1899.*Donated by* Boddington, 1910; Burpee, 1911.*Description in brief* — A violet and lilac-mauve variety.*Description in detail* — Color of standard violet-mauve 195 (1-2); wings lilac-mauve 196 (1-2); the back in each being a shade deeper. Flower large; standard large, hooded; wings long and broad. Flowers two to three, on long, moderately strong stems. Very fragrant. Bloom profuse. Suitable for home decoration or for market. Plant of moderately vigorous growth.*Comparison* — Is deeper in color than Countess of Radnor, but fades to the same shade.*Remarks* — The best of its color in the old type.**LADY NINA BALFOUR***Originated by* Eckford.*Introduced by* Eckford, 1897.*Description in brief* — Standard mauve, wings lavender.**MADELINE COLE***Originated by* Stark.*Introduced by* Stark, 1910.*Description in brief* — A pale lavender self.**MINNIE KEEPERS***Originated by* —.*Introduced by* May, 1895.*Description in brief* — "Flower large. Standard hooded. Color, standard pinkish lilac, wings lilac. Bloom medium." — Bulletin 111 of this station. Described by May as a "delicate lavender."**MRS. GEORGE HIGGINSON, JR.***Originated by* Morse.*Introduced by* Vaughan, 1904.*Donated by* Boddington, Vaughan, 1910; Burpee, 1911.*Description in brief* — A very light lavender variety.*Description in detail* — Color of standard and wings Parma violet 200 (1-2). Flower of medium size; standard of medium size, slightly hooded; wings medium long and narrow, hooded, concealing the keel. Flowers two to three, on long, strong stems. Very fragrant. Bloom profuse. Suitable for home decoration.*Synonyms* — True Lavender is the same variety.**MRS. ISAAC HOUSE***Originated by* — —.*Introduced by* House, 1910.*Description in brief* — "Silvery lavender." — Sweet Pea Annual.**NEW COUNTESS***Originated by* — —.*Introduced by* Burpee, 1897.*Description in brief* — A selected strain of Countess of Radnor with no reddish mauve in the standard.

Synonyms — Same as Celestial.

Remarks — "A selection from a single plant." — Sweet Peas Up to Date.

THE FAIRY

Originated by —————.

Introduced by Johnson, 1907.

Description in brief — Opens white, changing to lavender.

TRUE LAVENDER

Originated by —————.

Introduced by Bath, 1909.

Description in brief — A light lavender variety.

Synonyms — This is said to be another name for Mrs. George Higginson, jr.

Magenta-Rose

EARL CROMER

Originated by Eckford.

Introduced by Eckford, 1907.

Donated by Morse, 1910; Burpee, 1911.

Description in brief — A deep reddish mauve.

Description in detail — Color of standard and wings vinous-mauve 184 (1). Flower large, hooded form; standard large, slightly hooded, with round top; wings of medium size, concealing the keel. Flowers two to three, on medium stems. Very fragrant. Bloom profuse, continuous. Burns slightly. Plant of medium height and strong growth. Leaflets narrow, pointed; some plants show color in the developing tendrils; pedicels red; calyx shows some color.

Remarks — A distinct color.

FASHION

Originated by Morse.

Introduced by Burpee, 1899.

Description in brief — A medium-sized, hooded, rose-magenta self.

GEORGE GORDON

Originated by Eckford.

Introduced by Eckford, 1907.

Description in brief — A deep reddish mauve.

LORD KENYON

Originated by Eckford.

Introduced by Eckford, 1900.

Description in brief — A medium-sized, hooded, magenta-rose variety.

LORD ROSEBERRY

Originated by Eckford.

Introduced by Eckford, 1902.

Donated by Boddington, 1910; Burpee, 1911.

Description in brief — A rosy magenta variety.

Description in detail — Color of standard violet-rose 154 (4); wings pure mauve 181 (3-4). Flower medium to large, hooded form; standard medium to large, with round top; wings of medium size, long and broad, concealing the keel. Flowers two to three, on long stems. Bloom profuse, continuous. A garden variety. Plant of medium height, but stout and healthy.

Comparison — Similar to Lord Kenyon, but larger. Ovid has less violet color, and is therefore lighter. American Queen is the open-form variety of this color.

Remarks — One of the best of its color.

Marbled**DAWN***Originated by Walker.**Introduced by Walker, 1898.**Description in brief* — "An improved Gray Friar. A beautiful pea with many double flowers." — American Florist, 1900.*Comparison* — Said to be a selection from Princess of Wales, the color being a marbled Princess of Wales on white ground.**EXQUISITE***Originated by Bath.**Introduced by Bath, 1910.**Description in brief* — Veined with blue on a white ground.**GLADYS FRENCH***Originated by Unwin.**Introduced by Unwin, 1909.**Donated by Unwin, 1910; Burpee.**Description in brief* — A pale Helen Pierce.*Description in detail* — Standard veined, mottled, and marbled with light bluish violet 202 (1) on a purplish-tinted white 6 (2) ground; wings purplish-tinted white 6 (2), veined on back 202 (1). Flower of medium size, open form; standard of medium size, flat, with notched top; wings long and broad, concealing the keel. Flowers two to three on stems. Very fragrant. Bloom profuse, continuous. Sunproof.

Plant of medium height, strong, healthy. Leaflets narrow, pointed; tendrils green.

Comparison — Differs from Helen Pierce chiefly in the amount of color in the flower.**GRAY FRIAR***Originated by Morse.**Introduced by Burpee, 1896.**Description in brief* — A large, hooded flower, marbled with heliotrope on a white ground.*Remarks* — The watered grayish effect of the color suggested the name.**PERDITA***Originated by _____.**Introduced by Bath.**Description in brief* — Marbled with pink on a white ground.**PINK FRIAR***Originated by Morse.**Introduced by Burpee, 1899.**Description in brief* — A large, hooded flower, lightly marbled with rose-crimson on a white ground.**SPECKLED BEAUTY***Originated by Morse.**Introduced by Vaughan, 1904.**Description in brief* — A large, hooded flower, lightly marbled with light rose-crimson on a primrose ground.*Comparison* — Is Pink Friar on a primrose ground.*Synonyms* — Domino (Henderson, 1905) is the same variety.*Remarks* — The history of Speckled Beauty and Pink Friar indicates that they cannot be fixed.

Mauve**ADMIRATION***Originated by* _____.*Introduced by* Burpee, 1900.*Donated by* Burpee, 1910, 1911.*Description in brief* — A rosy lavender.*Description in detail* — Color of standard heliotrope 188 (1-3); wings 188 (2). Flower of medium size or larger, hooded form; standard of medium size, hooded, sometimes showing trace of an apical notch; wings long and narrow, concealing the keel. Flowers three, irregularly placed on very long, strong stems. Very fragrant. Bloom profuse, continuous. Plant of medium height and strong growth. Leaflets narrow, pointed; axillary color with the leaflets and sometimes with the leaves; tendrils green.*Remarks* — "Coquette × Emily Eckford." — Morse's Field Notes on Sweet Peas.**ARGOSY***Originated by* _____.*Introduced by* House.*Description in brief* — Lavender pink.**DOROTHY TENNANT***Originated by* Eckford.*Introduced by* Eckford, 1892.*Donated by* Morse, 1910; Burpee, 1911.*Description in brief* — Large, hooded; flower rosy mauve, changing to heliotrope.*Description in detail* — Color of standard bishop's violet 189 (2), changing to heliotrope 188 (1); wings heliotrope 188 (1-2). Flower medium to large, hooded form; standard medium to large, hooded, with round top; wings long and narrow, concealing the keel. Flowers two to three, on long, medium stems. Very fragrant. Bloom profuse, continuous. Sunproof. Plant of tall, strong growth. Leaflets broad, pointed; tendrils green.*Comparison* — Newly open flowers of Dorothy Tennant resemble those of Emily Eckford, but the latter shade off toward blue.**EMILY ECKFORD***Originated by* Eckford.*Introduced by* Eckford, 1893.*Donated by* Boddington, 1910; Burpee, 1911.*Description in brief* — A purple-mauve, changing to light blue.*Description in detail* — Color of standard and wings purplish mauve 186 (1-2); wings become more blue as the flower ages. Flower of medium size, hooded form; standard of medium size, hooded slightly, with notched top; wings long and broad, concealing the keel. Flowers two to three, on medium stems. Very fragrant. Bloom profuse, continuous. Sunproof. Plant of tall, strong growth. Leaflets pointed; tendrils green.*Comparison* — Dorothy Tennant resembles the recently opened blossoms.*Remarks* — A cross between Mrs. Sankey and Splendour. Offered in America by Breck in 1893.**FASCINATION***Originated by* Eckford.*Introduced by* Eckford, 1900.*Description in brief* — "Standard magenta mauve; wings deep mauve." — Eckford's catalogue.

MRS. BIEBERSTEDT*Originated by* _____.*Introduced by* Bell & Bieberstedt, 1908.*Donated by* Boddington, 1910; Burpee, 1911.*Description in brief* — A deep lavender self.*Description in detail* — Color of standard and wings purplish mauve 186 (1-2), changing to heliotrope 188 (1-3). Flower large, hooded form; standard large, slightly hooded, with round top; wings long and broad, partly open. Flowers two to three, usually three, on long stems. Very fragrant. Bloom profuse. Sunproof. Plant of strong, vigorous growth. Leaflets broad; tendrils green.*Remarks* — Distinct, and a very desirable variety for the garden.**MRS. TOM FOGG***Originated by* Jones.*Introduced by* Jones, 1908.*Description in brief* — "Mauve tinted pink." — Sweet Pea Annual.**MRS. WALTER WRIGHT***Originated by* Eckford.*Introduced by* Eckford, 1903.*Donated by* Boddington, 1910; Burpee, 1911.*Description in brief* — Standard heliotrope, wings violet.*Description in detail* — Color of standard shades from pale light lilac 187 (2) to heliotrope 188 (2); wings bishop's violet 189 (1). Flower large, hooded form; standard large, extremely hooded, with round top; wings long and very broad, partly open. Flowers two to three, on long, strong stems. Moderately fragrant. Bloom profuse, continuous. Sunproof. Plant of tall, strong growth. Leaflets broad, pointed; tendrils green.*Comparison* — Color intermediate between Dorothy Tennant and Emily Eckford. Mrs. Walter Wright is larger than either.**ROMOLO PIAZZANI***Originated by* Eckford.*Introduced by* Eckford.*Donated by* Boddington, 1910; Burpee, 1911.*Description in brief* — A violet-blue, the wings changing to light lilac.*Description in detail* — Color of standard bluish lilac 183 (1); wings pale light lilac 187 (1). Flower of medium size, hooded form; standard of medium size, hooded, with round top; wings long and broad, concealing the keel. Flowers two to three, equidistant on medium stems. Moderately fragrant. Bloom profuse, continuous. Sunproof. Plant of medium height and strong growth. Leaflets pointed; tendrils green.*Comparison* — Less blue than Emily Eckford.**Orange Shades****BOLTON'S PINK***Originated by* Bolton.*Introduced by* Bolton, 1905.*Donated by* Boddington.*Description in brief* — An orange-pink variety.*Description in detail* — Color bronzy old rose 148 (4); wings dark old rose 149 (1). Flower large, hooded form; standard large, hooded, without apical notch; wings long and broad, partly open. Flowers usually three, on long, strong stems. Moderately fragrant. Bloom profuse. Burns badly. Plant of tall, strong growth.*Comparison* — Is distinct from Miss Wilmott.

BUTTONHOLE*Originated by* _____.*Introduced by* Miss Hemus, 1908.*Description in brief* — A salmon-pink variety.**CHANCELLOR***Originated by* Eckford.*Introduced by* Eckford, 1898.*Description in brief* — Bright orange-pink.*Comparison* — Lady Penzance is said to be practically the same, but is perhaps a little lighter.**LADY MARY CURRIE***Originated by* Eckford.*Introduced by* Eckford, 1898.*Donated by* Burpee, 1911.*Description in brief* — Crimson-tinted orange.**MISS WILMOTT***Originated by* _____.*Introduced by* Eckford, 1901.*Donated by* Boddington, 1910; Burpee, 1911.*Description in brief* — Orange-pink, shaded with rose.*Description in detail* — Color of standard violet-old rose 145 (2), edge purple-rose 150 (4); wings dark old rose 149 (2) in front and purple-rose 150 (2) on the back. Flower large, hooded form; standard large, hooded, without apical notch; wings long and broad, partly open. Flowers three, on long, strong stems. Very fragrant. Bloom profuse. Burns badly. Plant of very tall, strong growth.*Comparison* — Is less resistant to hot sunshine than Miss Wilmott Improved.**MISS WILMOTT IMPROVED***Originated by* _____.*Introduced by* Watkins & Simpson, 1910.*Donated by* Watkins & Simpson.*Description in brief* — "Orange pink shaded rose." — Sweet Pea Annual.*Comparison* — This proved to be a good strain of Miss Wilmott.**MRS. J. MILLER***Originated by* Jones.*Introduced by* Jones, 1908.*Description in brief* — Salmon-pink self.**ORIENTAL***Originated by* Morse.*Introduced by* Burpee, 1898.*Description in brief* — Bright orange-pink, veined with a deeper shade.**Picotee Edged (Lavender and Blue group)****BUTTERFLY***Originated by* _____.*Introduced by* Sutton, 1878.*Donated by* Morse; for evolution studies.*Description in brief* — White, tinted purple and edged with blue.*Description in detail* — Color of standard and wings edged lobelia blue 205 (1-2) on a purplish-tinted ground 6 (3-4). Flower small to medium size, hooded form;

standard small to medium size, hooded, with notched sides; wings short and broad. Flowers two to three on stems. Very fragrant. Bloom profuse. Plant of tall, strong, healthy growth. Leaflets narrow, pointed; tendrils green.

Comparison — Butterfly, Maid of Honor, and Lottie Eckford vary in the amount of coloring distributed in the flower.

Remarks — One of the most important varieties ever grown.

DOLLY VARDEN

Originated by Morse.

Introduced by Burpee, 1898.

Donated by Morse, for evolution studies.

Description in brief — Standard light purple, with lighter edges; wings light purple-blue.

Description in detail — Color of standard bishop's violet 189 (3-4); wings heliotrope 188 (1-2). Flower of medium size, hooded form; standard of medium size, hooded when side notches are present, flat, with narrow base; wings long and broad. Flowers two to three, equidistant on stems. Very fragrant. Bloom profuse. Plant of tall, strong growth. Leaflets broad, pointed; tendrils green.

Comparison — Standard not the same color as Splendid Lilac. Described by Morse as practically a hooded form of Splendid Lilac.

GOLDEN GATE

Originated by Morse.

Introduced by Burpee, 1897.

Description in brief — Standard soft pinkish mauve; wings light mauve. Flowers have peculiarly shaped wings, which stand up against the standard.

IVY MILLER

Originated by Miller.

Introduced by Miller, 1908.

Donated by Burpee.

Description in brief — A light lilac, edged with blue and violet.

Description in detail — Color of standard and wings pale light lilac 187 (1); standard picotee-edged with aniline blue 202 (3); wings picotee-edged with violet-mauve 195 (1). Flower medium large, hooded form; standard of medium size, hooded, with round top; wings long and broad, concealing the keel. Flowers two to three, equidistant on long, strong stems. Very fragrant. Bloom profuse, continuous. Sunproof. Plant of medium height and strong growth, healthy. Leaflets narrow, pointed; tendrils green.

Comparison — Similar to Lottie Eckford in form and size. Has more color suffused in the flower. Superseded by Phenomenal.

LOTTIE ECKFORD

Originated by Eckford.

Introduced by Eckford, 1890.

Donated by Boddington, 1910; Burpee, 1911.

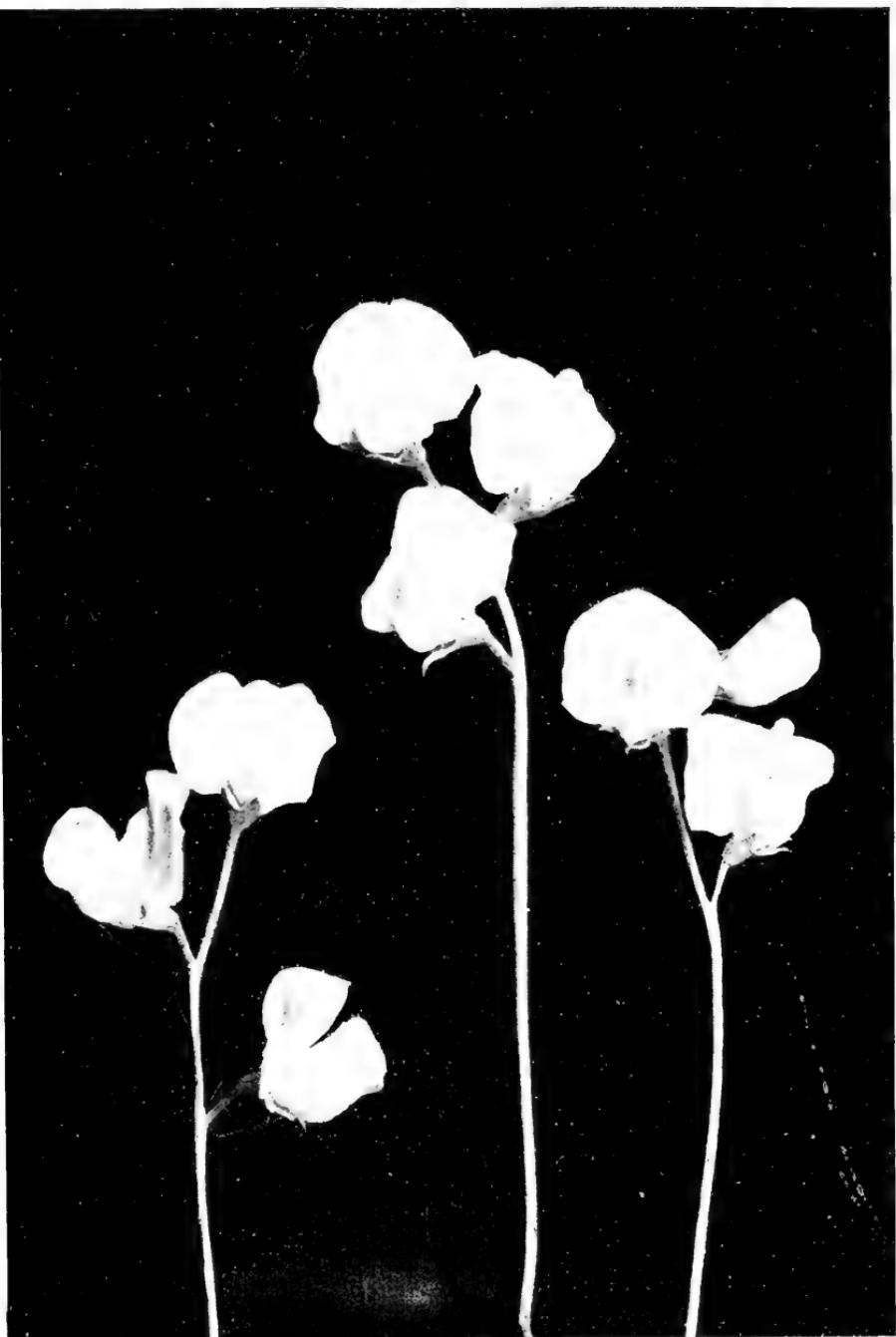
Description in brief — A lilac-white variety, picotee-edged with blue.

Description in detail — Color of standard and wings lilac white 7 (1-4), edged with ageratum blue 201 (3). Many double flowers. Flower medium to large, hooded form; standard medium to large, hooded, with round top; wings long and broad, concealing the keel. Flowers two to three, on medium stems. Moderately fragrant. Bloom profuse, continuous. Sunproof. Plant of medium height and fairly strong growth. Leaflets narrow, pointed, dark green; tendrils green.

Comparison — Butterfly is somewhat similar, but has less color when the flower opens and is smaller in size.

MAID OF HONOR*Originated by Morse.**Introduced by Burpee, 1897.**Donated by Burpee, 1910, 1911.**Description in brief* — White, edged and shaded with light blue.*Description in detail* — Color of standard and wings lilac white 7 (2-3), edged with ageratum blue 201 (2-3). Flower of medium size, hooded form; standard of medium size, hooded, with round top and many side notches; wings long and broad, concealing the keel. Flowers two to three, on long, strong stems. Very fragrant. Bloom profuse, continuous. Sunproof.*Comparison* — Lottie Eckford is superior.*Synonyms* — Butterfly Improved (Henderson Catalogue, 1898) is a synonym.**PHENOMENAL***Originated by Morse.**Introduced by Henderson, 1905.**Donated by Morse, Vick, 1910; Burpee, 1911.**Description in brief* — White, shaded and edged with mauve and heliotrope.*Description in detail* — Color of standard lilac white 7 (3-4), picotee-edged with violet-mauve 195 (1) changing to heliotrope 188 (1); wings edged with Parma violet 200 (1). Flower large, hooded form; standard large, hooded, sometimes inclined to be wavy; wings long and broad, concealing the keel. Flowers two to three, on long, strong stems. Fragrant. Bloom profuse, continuous. Sunproof. Plant of tall, strong growth. Leaflets broad, pointed, dark green.*Remarks* — The best of the picotee-edged blue varieties of this form. One of the best doubles.**Picotee Edged (Pink group)****DAINTY***Originated by Morse.**Introduced by Burpee, 1903.**Donated by Boddington, 1910; Burpee, 1911.**Description in detail* — Color of standard purplish-tinted white 6 (1), edged with violet-rose 154 (1), deeper color on back; wings purplish-tinted white, edge same; general effect is pure white with pink edges; primrose-yellow in the bud. Flower of medium size, hooded form; standard of medium size, slightly hooded, shell-shaped, with round top; wings long and narrow. Flowers three, equidistant on long, strong stems. Very fragrant. Bloom profuse. Plant of tall, strong growth. Leaflets broad, pointed; tendrils green; color appears in axils of leaves and leaflets.*Synonyms* — Pink Butterfly is a synonym.*Remarks* — Some seed was sent out for advance trial in 1902.**NYMPHAEA***Originated by Morse.**Introduced by Morse, Vaughan, 1904.**Donated by Morse, Vaughan, 1910.**Description in detail* — Color of standard amber-white 12 (2); wings 12 (1), changing to pale light lilac 187 (1) except the top flower, which remains white. Flower of medium size, hooded form; standard of medium size, slightly hooded, with slightly wavy edges and round top; wings long and broad, upright. Flowers three, equidistant on the stem. Moderately fragrant. Bloom profuse. Plant of tall, strong growth. Leaflets broad, pointed; tendrils green; axillary color in leaves and leaflets.

Pink**FLORRIE CRUTCHER***Originated by* —*Introduced by* Jones, 1908.*Description in brief* — Rose-pink, veined with deeper pink.**LORD DERBY***Originated by* —*Introduced by* May, 1894.*Description in detail* — "Flowers small. Standard slightly concave, wedge-shaped. Color, standard pink, wings purple-pink. Bloom medium." — Bulletin 111 of this station.*Remarks* — Color illustration appears on back cover of May's catalogue for 1895.**LOVELY***Originated by* Eckford.*Introduced by* Eckford, 1896.*Donated by* Boddington, 1910; Burpee, 1911.*Description in detail* — Color of standard and wings mauve-rose 153 (1-3) on a white ground; color lighter at edges. Flower of medium size, hooded form; standard of medium size, hooded, with round top; wings short and broad, partly open. Flowers three, equidistant on long, strong stems. Very fragrant. Bloom profuse, continuous. Sunproof. Plant of tall, strong, healthy growth. Leaflets broad, pointed; tendrils green.*Comparison* — The perfected type, of which Peach Blossom, Isa Eckford, and Crown Princess of Prussia are inferior examples.**MRS. E. HERBERT***Originated by* Jones.*Introduced by* Jones, 1908.*Description in brief* — Lilac-pink, veined deeper.**MRS. KNIGHTS-SMITH***Originated by* Eckford.*Introduced by* Eckford, 1904.*Description in brief* — A pink self, hooded, with wide-spreading wings.**PRIMA DONNA***Originated by* Eckford.*Introduced by* Eckford, 1896.*Donated by* Boddington, 1910; Burpee, 1911.*Description in brief* — A pure pink self.*Description in detail* — Color of standard and wings mauve-rose 153 (1). Flower above medium size, hooded form; standard above medium size, hooded, with round top; wings of medium size, short and broad, varying from partly open to spreading. Flowers two to three, usually three, on long, strong stems. Very fragrant. Bloom profuse. Plant tall, strong, vigorous, healthy. Leaflets broad; tendrils colored; color shown in axils of peduncles and leaflets.*Comparison* — Blushing Beauty is similar, but is lighter in color. Royal Robe is slightly darker and is smaller.*Remarks* — The leading pink variety of the old type.**QUEEN OF PINKS***Originated by* —*Introduced by* Sutton, 1901.*Synonyms* — Said to be another name for Prima Donna.



Prima Donna



ROSE QUEEN*Originated by Stark.**Introduced by Stark, 1905.**Description in brief* — A rosy pink self.**ROYAL ROBE***Originated by Eckford.**Introduced by Eckford, 1893.**Description in brief* — A light pink self.**Striped and Flaked (Chocolate stripes)****SENATOR***Originated by Eckford.**Introduced by Eckford, 1891.**Donated by Burpee, 1911.**Description in brief* — A large, chocolate-striped variety.*Description in detail* — Standard and wings striped with purple-brown 166 (1-2) on a purplish-tinted 6 (2) ground. Flower large, hooded form; standard large, hooded, with round top; wings long and broad. Fragrant.**Striped and Flaked (Mauve or blue)****CAPRICE***Originated by _____.**Introduced by Henderson, 1888.**Description in brief* — "White watered and striped with mauve." — Henderson's catalogue.**DOUGLAS BREADMORE***Originated by Breadmore.**Introduced by Breadmore, 1906.**Description in brief* — Slightly hooded, flaked with bright purple.**JUANITA***Originated by Morse.**Introduced by Burpee, 1896.**Donated by Morse, for evolution studies.**Description in brief* — White, standard striped with mauve and wings striped with lavender.*Description in detail* — Color of standard heliotrope 188 (1) on a lilacy white 7 (1-2) ground; wings suffused with heliotrope. Flower of medium size, hooded form; standard of medium size, hooded, with notched top; wings of medium size, long and broad, partly open. Flowers two to three, usually two, on long, strong stems. Fragrant. Bloom profuse, continuous. Plant of slender growth.*Comparison* — Similar to Striped Celestial (Lorenz, 1897).*Remarks* — The stock of this was mixed.**NITA***Originated by Walker.**Introduced by Walker, 1898.**Description in brief* — A pale mauve stripe on a white ground.*Comparison* — Superseded by Juanita.**PRINCESS OF WALES***Originated by Eckford.**Introduced by Eckford, 1886.**Description in brief* — A hooded flower, striped with mauve and purple on white.*Comparison* — Between Senator and Wawona in color.

STRIPED CELESTIAL*Originated by Lorenz.**Introduced by Lorenz, 1897.**Donated by Morse, for evolution studies.*

Description in detail — Color of standard heliotrope 188 (1) on a lilac white 7 (1-2) ground; wings suffused with heliotrope. Flower of medium size, hooded form; standard of medium size, hooded, with notched top; wings of medium size, long and broad, partly open. Flowers two to three, usually two, on long, strong stems. Fragrant. Bloom profuse, continuous. Plant of slender growth.

Comparison — Similar to Juanita.*Remarks* — The stock of this was pure.**STRIPED TENNANT***Originated by Walker.**Introduced by Walker, 1898.*

Description in brief — "A darker form of Nita." — Walker's catalogue.

UNIQUE*Originated by Stark.**Introduced by Stark, 1906.**Donated by Rawson.*

Description in brief — White, striped with light blue.

Description in detail — Color of standard Parma violet 200 (3) on a white ground; wings Parma violet 200 (1-2) on a white ground. Flower of medium size; standard of medium size, slightly hooded, with round top; wings long and broad, concealing the keel. Flowers two, on long, strong stems. Fragrant. Bloom profuse, continuous. Garden variety. Plant of tall, stout growth.

Comparison — May be known as Flora Norton striped white.*Remarks* — A distinct variety.**WAWONA***Originated by Morse.**Introduced by Burpee, 1898.**Donated by Morse, for evolution studies.*

Description in brief — A lilac stripe on a white ground.

Description in detail — Standard striped with violet-rose 154 (4), wings striped with magenta 182 (1), both on a purplish-tinted white 6 (4) ground. Flower of medium size, hooded form; standard of medium size, hooded, with round top; wings long and broad, concealing the keel. Flowers two to three, on long, strong stems. Bloom profuse, continuous. Plant of medium height and slender growth. Leaflets narrow, pointed; tendrils green.

Comparison — Juanita is a lighter color.**Striped and Flaked** (Red and rose on primrose ground)**EASTERN QUEEN**

Description in brief — "Slightly flaked on cream ground." — Sweet Pea Annual.

FLORENCE MOLYNEAUX*Originated by Dobbie.**Introduced by Dobbie, 1905.*

Description in brief — Lightly striped with rose on a primrose ground.

GOLDEN ROSE*Originated by Morse.**Introduced by Burpee, 1902.**Donated by Burpee, 1910.*

Description in detail — Color of standard amber-white 12 (3); wings amber-white 12 (1-2), faintly striped with pink, which in hot sunshine quickly disappears. Flower large, hooded form; standard large, slightly hooded, with round top; wings very large, long and broad. Flowers two to three, on medium stems. Moderately fragrant. Bloom profuse, continuous. A garden variety. Plant of tall, strong growth. Leaflets broad; tendrils green.

JESSIE CUTHBERTSON*Originated by Dobbie.**Introduced by Dobbie, 1903.**Donated by Dobbie, 1910; Burpee, 1911.**Description in brief* — Pink stripe on a primrose ground.

Description in detail — Color Rose Neyron red 119 (3) stripes on a yellowish white 13 (2) ground. Flower medium to large; standard medium to large, hooded, with round top; wings long and broad, concealing the keel. Flowers two to three, on long, strong stems. Moderately fragrant. Bloom profuse, continuous.

Comparison — Sunset is darker.**LOTTIE HUTCHINS***Originated by Morse.**Introduced by Burpee, 1898.**Description in brief* — Slightly hooded, light pink stripe on a primrose ground.**SUNSET***Originated by Morse.**Introduced by Vaughan, 1904.**Donated by Vaughan, 1910.*

Description in detail — Color of standard purple-rose 150 (1-2) stripes on a purplish-tinted 6 (1-2) ground; wings 150 (2-3) on 6 (2-3) ground. Flower large, hooded form; standard large, slightly hooded, with round top; wings long and broad. Flowers two, on long, strong stems. Moderately fragrant. Bloom profuse, continuous. Plant of medium height and strong growth.

Comparison — Appeared to be a little more heavily striped, and at this station a little larger, than Jessie Cuthbertson.

Remarks — A badly mixed lot, from white to pink and lavender.**Striped and Flaked (Red and rose on white ground)****ANNIE STARK***Originated by Stark.**Introduced by Stark, 1906.*

Description in brief — A medium-sized, hooded flower. Lightly striped with light crimson on a white ground.

Comparison — A heavier stripe than Ramona, but otherwise similar.**AURORA***Originated by —————.**Introduced by Burpee, 1897.**Donated by Burpee, 1910, 1911.**Description in brief* — White, striped with orange-rose.

Description in detail — Color Rose Neyron red 119 (1) on a sulfury white 14 (1) ground. Flower large; standard large, slightly hooded, with round top; wings long and

broad, concealing the keel. Flowers two to three, on long, strong stems. Moderately fragrant. Bloom profuse, continuous. A garden or exhibition variety. Plant of medium growth, stout, healthy.

Comparison — Mrs. Joseph Chamberlain does not have the orange tint. Coronet is the true open form of this variety, but becomes pale on the edges.

Remarks — This variety and Dorothy Eckford represent the perfection of the hooded form.

BRITANNIA

Originated by Dobbie.

Introduced by Dobbie, 1904.

Description in brief — A slightly hooded flower, flaked with crimson on a white ground.

CAPRICE

Originated by —

Introduced by Johnson, 1906.

Description in brief — A large, slightly hooded flower, delicately striped with carmine on a white ground.

GAIETY

Originated by Eckford.

Introduced by Eckford, 1893.

Donated by Morse, for evolution studies.

Description in brief — A red stripe on a rosy white ground.

Description in detail — Color of stripes of standard and wings solferino-red 157 (1-2) on a rosy white ground. Flower of medium size, hooded; standard of medium size, slightly hooded, showing both notched and round apices; wings long and broad. Flowers two to three, usually two, on long, strong stems. Fragrant. Bloom profuse, continuous. Plant of medium height and slender growth. Leaflets narrow, pointed; tendrils green.

LIGHT GAIETY

Originated by Walker.

Introduced by Walker, 1898.

Description in brief — A light form of Gaiety.

Comparison — Superseded by Ramona.

MIKADO

Originated by Eckford.

Introduced by Eckford, 1895.

Description in brief — A large, hooded flower, flaked with bright rose-crimson on a white ground.

MRS. JOSEPH CHAMBERLAIN

Originated by Eckford.

Introduced by Eckford, 1895.

Description in brief — White, striped with rose.

Description in detail — Color of standard and wings rosy white 8 (1), striped with purple-rose 150 (1). Flower large; standard large, slightly hooded, with round top; wings long and broad, concealing the keel. Flowers two to three, on long, strong stems. Moderately fragrant. Bloom profuse, continuous. Plant of medium height and stout, vigorous, healthy growth.

Comparison — Does not have the orange tint seen in Aurora.

Remarks — Said to be a cross between Captain of the Blues and Mrs. Sankey.

OREGONIA*Originated by Walker.**Introduced by Walker, 1899.**Description in brief* — A hooded flower, striped with brownish red on a white ground.**RAMONA***Originated by Morse.**Introduced by Burpee, 1896.**Donated by Burpee, 1911.**Description in brief* — A light pink stripe on a white ground.*Description in detail* — Standard and wings striped with pale lilac-rose 130 (2) on a lilac white 7 (1) ground.**White****ALBATROSS***Originated by Dobbie.**Introduced by Dobbie, 1907.**Description in brief* — A pure white, black-seeded variety.**BLANCHE BURPEE***Originated by Eckford.**Introduced by Eckford, 1894.**Donated by Burpee, 1911.**Description in brief* — A slightly hooded, pure white variety.*Description in detail* — Flower medium to large, slightly hooded form; standard medium large; wings notched. Flowers two to three, on short, slender stems. Productive. Wet weather injures flowers. Plant of strong, vigorous growth. Seed white.**DOROTHY ECKFORD***Originated by Eckford.**Introduced by Eckford, 1903.**Donated by Boddington, 1910; Burpee, 1911.**Description in brief* — A large, pure white flower of ideal hooded form.*Description in detail* — Color of standard and wings amber-white 12 (1), becoming pure white. Flower large; standard large, slightly hooded, with round top; wings large, long and broad. Substance good. Flowers three, on long, strong stems. Moderately fragrant. Bloom profuse, continuous. A leading market variety. Plant of tall, strong growth. Leaves dark green. Seed white.*Remarks* — The ideal hooded type.**FINETTA BATHURST***Originated by Bathurst.**Introduced by Mackereth, 1908.**Description in brief* — A large, slightly hooded, white variety.**MRS. SANKEY***Originated by Eckford.**Introduced by Eckford, 1889.**Description in brief* — A pure white, black-seeded variety.**SADIE BURPEE (black-seeded)***Originated by Eckford.**Introduced by Eckford, 1899.**Donated by Burpee, 1910.**Description in brief* — A large, hooded, white variety.*Description in detail* — Color of standard purplish-tinted white 6 (3); wings purplish-tinted white 6 (1). Flower large; standard large, much hooded, with round top;

wings medium broad, concealing the keel. Flowers three, on long, strong stems. Very fragrant. Plant of tall, erect, wiry growth. Leaves dark green; tendrils colored; color in axils of leaves and leaflets.

SADIE BURPEE (white-seeded)

Originated by Eckford.

Introduced by Eckford, 1899.

Description in brief — A large, hooded, white variety.

Description in detail — Color of standard sage tint 4 (1); wings snow white 2 (1). Flower large; standard large, much hooded, with round top; wings of medium size, broad, concealing the keel. Very fragrant. Bloom profuse. Stems long and strong, with three flowers. Plant of tall growth. Leaves dark green; tendrils green; no color in axils.

Remarks — There is a form with black seed which shows a pinkish tint in the flowers.

THE BRIDE

Originated by Lynch.

Introduced by Lynch, 1897.

Description in brief — A white-flowered variety of the type of Mrs. Eckford.

Remarks — This variety has white seed and was introduced as a white selection of Mrs. Eckford.

WHITE WONDER

Originated by Morse.

Introduced by Burpee, 1904.

Donated by Boddington, Burpee, 1910; Burpee, 1911.

Description in brief — A large, pure white variety.

Description in detail — Color of standard and wings creamy white 10 (1); flower primrose when it opens, but changes to pure white. Flower large, double; standards often two or three, large and hooded; wings large, long and broad, partly open. Flowers two to four, on long, strong stems; fully one half are double under good culture. Fragrant. Bloom profuse. Plant of tall, strong growth.

Remarks — The best double white among the older type of sweet peas.

Yellow Shades

ALBION

Originated by Stark.

Introduced by Stark, 1906.

Description in brief — An ivory-white variety.

CREAM OF BROCKHAMPTON

Originated by Foster.

Introduced by Foster, 1902.

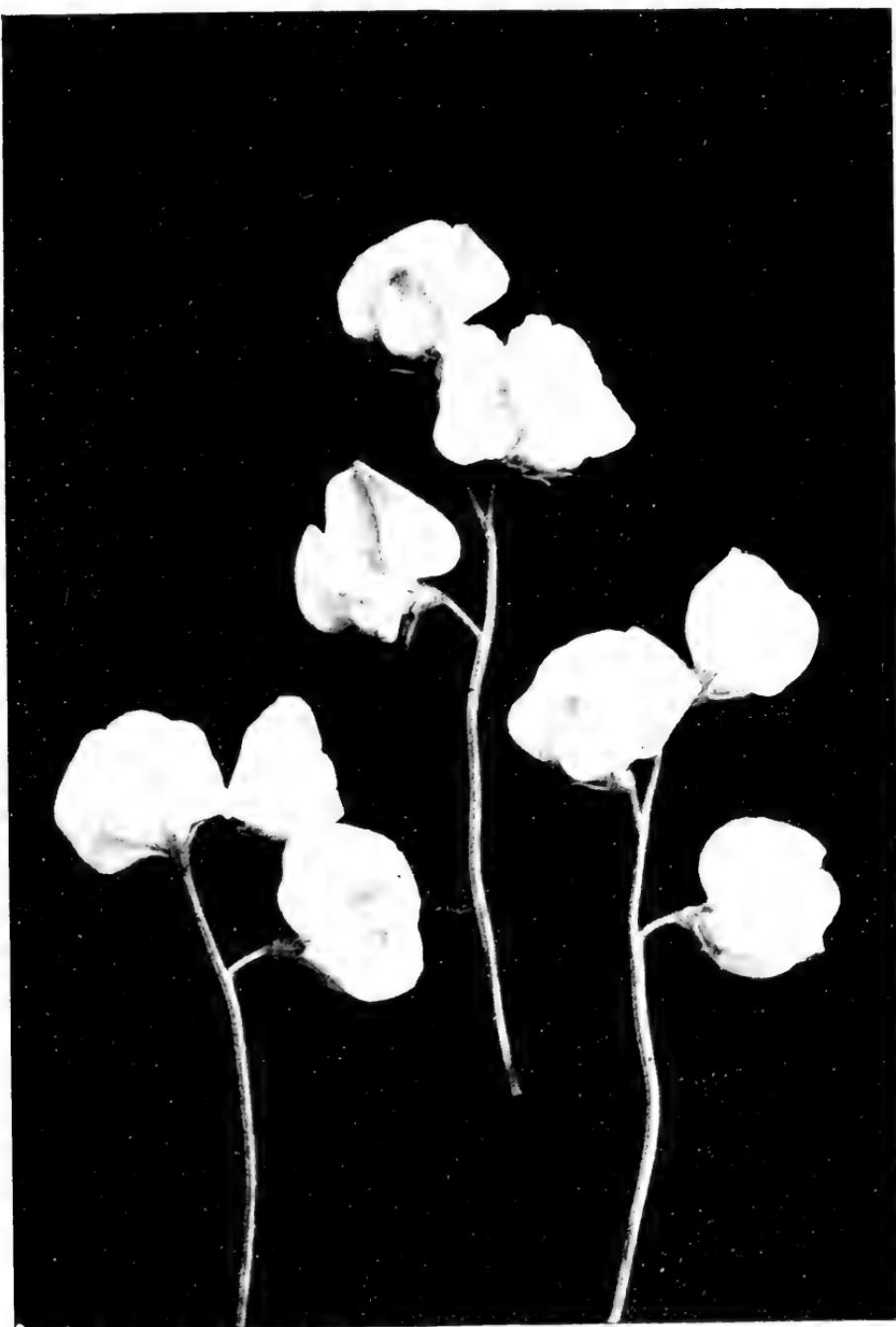
Description in brief — "A cream self." — Sweet Pea Annual.

FORTY-NINER

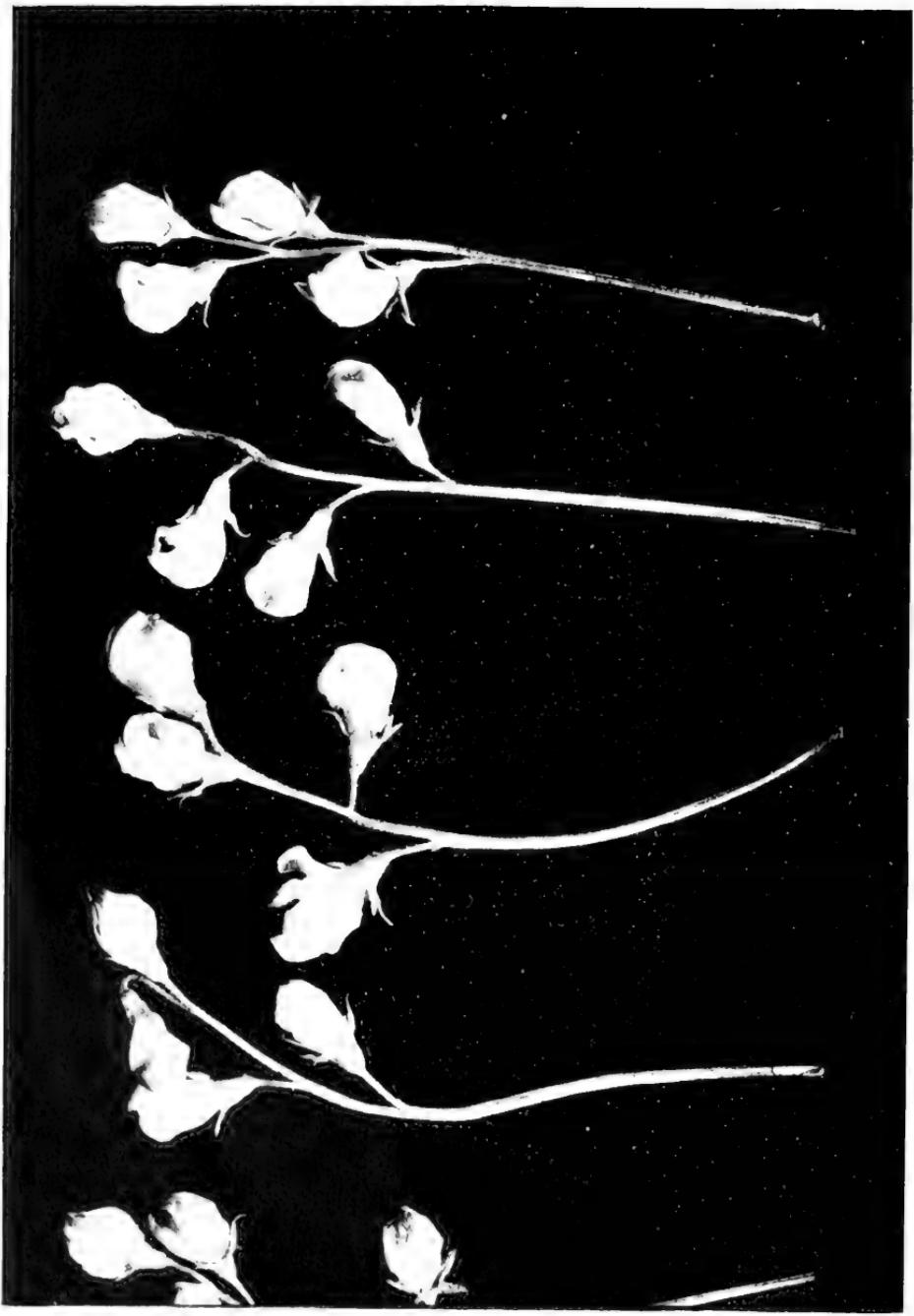
Originated by Sunset Seed and Plant Company. *Introduced by* Sunset Seed and Plant Company, 1898.

Description in brief — "A soft sulphur-yellow self." — Sweet Pea Review.

Comparison — Henderson placed this variety in the discard list in 1899, recommending Golden Gleam as superior.



Junc. Geiss.



GOLDEN GLEAM

Originated by —————. *Introduced by* Sunset Seed and Plant Company, 1897.

Donated by Morse, for evolution studies.

Description in brief — Described as a yellow form of Blanche Burpee.

Synonyms — Same as Mrs. Eckford.

JAMES GRIEVE

Originated by Eckford.

Introduced by Eckford, 1908.

Donated by Dobbie, Rawson, 1910.

Description in brief — A large, yellow variety.

Description in detail — Color of standard sulfury white 14 (2-3); wings sulfury white 14 (3-4). Flower large, open form; standard large and erect, with occasional tendency to become slightly hooded and to show trace of the top notch; wings long and broad, spreading laterally, tending to parallel the standard. Flowers two to three, on extra long, strong stems. Very fragrant. Bloom profuse. Plant of tall, strong growth.

MRS. A. MALCOLM

Originated by Alexander Malcolm.

Introduced by E. W. King, Mackereth, 1909.

Description in brief — A primrose self.

MRS. COLLIER

Originated by Dobbie.

Introduced by Dobbie, 1907.

Donated by Boddington, Dobbie, 1910; Burpee, 1911.

Description in brief — A rich primrose variety.

Description in detail — Color of standard amber-white 12 (2); wings amber-white 12 (1). Flower large; standard large, slightly hooded, with round top; wings long and broad, spreading. Flowers two to three, on strong stems of medium length. Very fragrant. Bloom profuse. Substance good. Plant of strong, tall growth. Foliage dark green.

Comparison — A primrose Dorothy Eckford.

Synonyms — Dora Cowper (Breadmore, 1907) and Mrs. R. F. Felton (Bolton, 1907).

MRS. ECKFORD

Originated by Eckford.

Introduced by Eckford, 1892.

Donated by Burpee, 1910, 1911.

Description in brief — A large, semi-hooded, primrose variety.

Description in detail — Color of standard yellowish white 13 (1-2); wings yellowish white 13 (2-3). Flower above medium size; standard medium, slightly hooded, with round top; wings medium, short and broad. Flowers two to three, on very long, strong stems. Moderately fragrant. Bloom profuse. Plant of tall, strong growth.

Synonyms — Golden Gleam appears to be the same variety.

QUEEN VICTORIA

Originated by Eckford.

Introduced by Eckford, 1897.

Donated by Boddington, 1910; Burpee, 1911.

Description in brief — A light primrose, with a tinge of pink.

Description in detail — Color of standard and wings lilacy white 7 (1-2); buds with a pinkish tinge, but more color in buds than in those of Mrs. Eckford; the pink color

disappears as the flower opens. Flower above medium size; standard of medium size, hooded; wings long and broad. Flowers three, on long, strong stems. Very fragrant. Bloom profuse. Plant of tall, strong growth. Tendrils colored at first, becoming green. Seed black.

SAFRANO

Originated by Gilbert & Son.

Introduced by Gilbert, 1911.

Description in brief — A primrose variety.

THE HONORABLE MRS. E. KENYON

Originated by Eckford.

Introduced by Eckford, 1901.

Donated by Boddington, 1910; Burpee, 1911.

Description in brief — A large, semi-hooded, primrose variety.

Description in detail — Color of standard yellowish white 13 (3); wings yellowish white 13 (2). Flower large; standard large, slightly hooded, with round top; wings of medium size, broad. Flowers two to three, on long stems of moderate strength. Fragrant. Plant of strong, tall growth. Plant, leaves, and stems have a yellow tinge.

YELLOW HAMMER

Originated by Breadmore.

Introduced by Breadmore, 1909.

Description in brief — A sulfur-yellow self.

EXTREME HOODED VARIETIES

Snapdragon

PINK SNAPDRAGON

Originated by Morse.

Introduced by Burpee, 1903.

Donated by Morse, for evolution studies.

Description in detail — Color of standard and wings Rose Neyron red 119 (1) on a rosy white 8 (1) ground. Flower small, snapdragon form. Stems long.

PURPLE SNAPDRAGON

Originated by —.

Introduced by Burpee.

Donated by Morse, for evolution studies.

Description in detail — Color of standard shades from bishop's violet 189 (2-3) to bright violet 190 (2-4); wings lilacy white 7 (4) to rich pansy-violet 191 (2-3). Flower of medium size, snapdragon form. Stems long.

RED RIDING HOOD

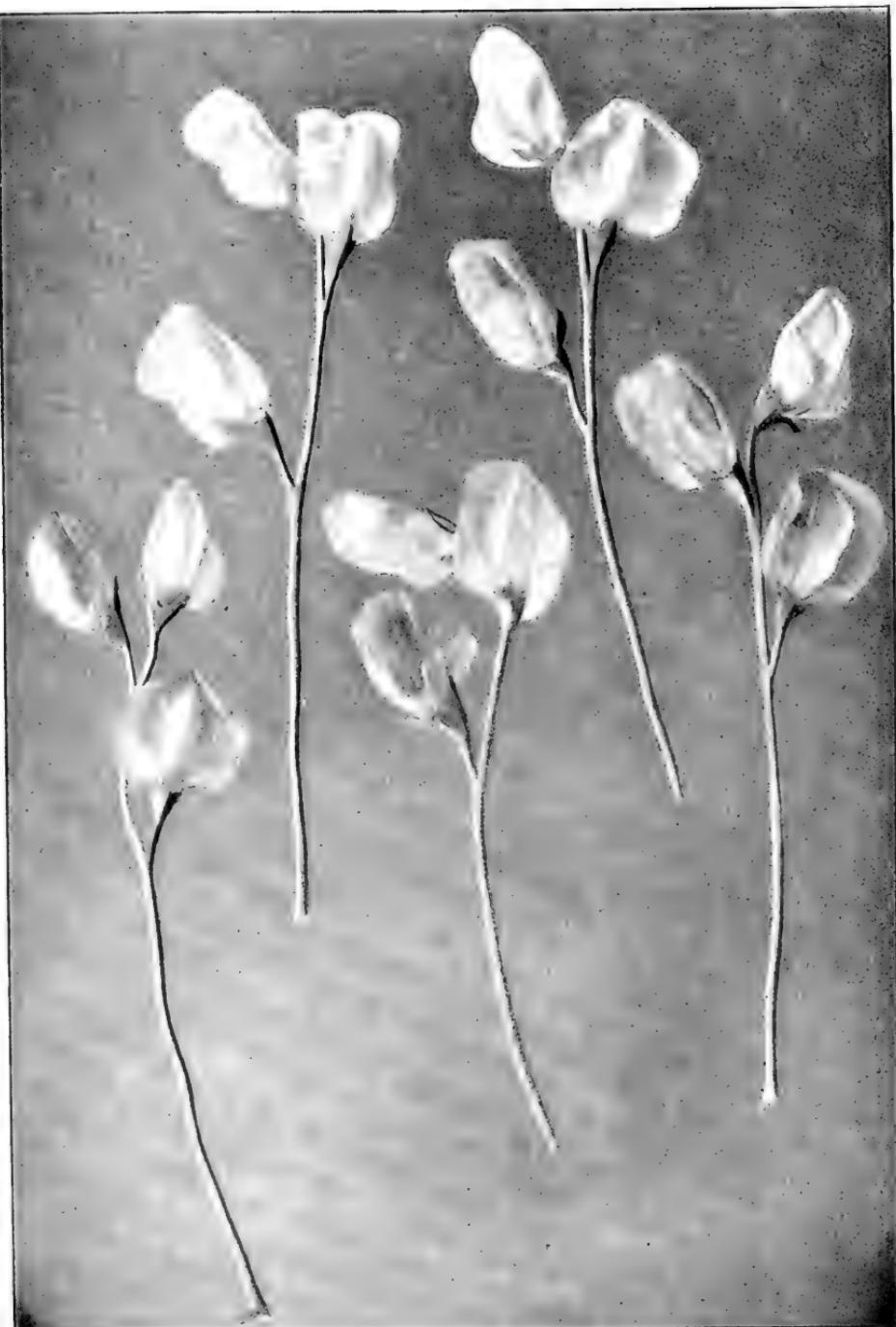
Originated by Sunset Seed and Plant Company. *Introduced by* Sunset Seed and Plant Company, 1897.

Donated by Morse, for evolution studies.

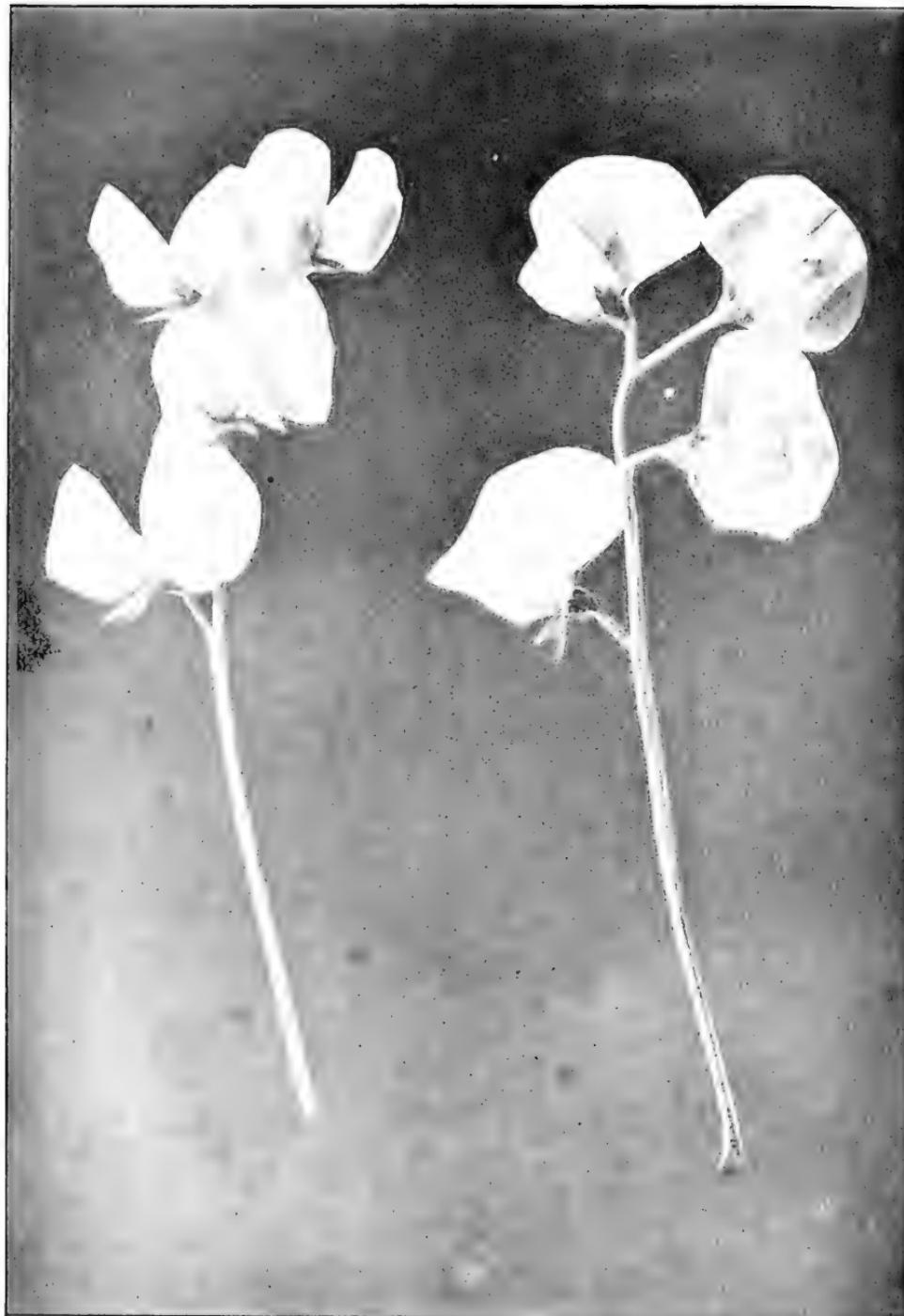
Description in brief — A crimson snapdragon variety.

Description in detail — Color of standard Rose Neyron red 119 (4) on a rosy white 8 (1) ground; wings Tyrian rose 155 (1). Flower large, snapdragon form; standard envelops the wings.

Remarks — The first of the snapdragon varieties.



Salvation Lassie



Apple Blossom Spencer

SALVATION LASSIE

Originated by ————— *Introduced by* Burpee, 1902.

Donated by Morse, for evolution studies.

Description in brief — "Light carmine, standards and wings hooded like a bonnet."— Burpee's catalogue.

Description in detail — Color of standard violet-rose 154 (1) on a rosy white ground; wings Tyrian rose 155 (1-2) on a rosy white ground. Flower large, snapdragon form; standard short, folded over wings like a bonnet; wings of usual type.

Comparison — Similar to Red Riding Hood, but with standard more fully developed.

Remarks — Valuable as a curiosity.

WHITE SNAPDRAGON

Originated by ————— *Introduced by* Burpee, 1902.

Donated by Morse, for evolution studies.

Description in brief — A white snapdragon variety.

WAVED VARIETIES

Bicolor

APPLE BLOSSOM SPENCER

Originated by —

Introduced by Burpee, 1908.

Donated by Burpee, Morse, 1910.

Description in brief — Large to very large, waved, rose bicolor; garden, market, or exhibition variety.

Description in detail — Color of standard lilac-rose 152 (4), wings violet-rose 154 (1-2), on a faint primrose ground. Standard large, much waved; wings very large, waved.

Flowers two to four, on long, very stout stems. Fragrant. Bloom profuse and continuous. Sunproof. Plant of medium height and stout, healthy growth.

Comparison — A misnomer, for it is not like Apple Blossom. It should be called Jeannie Gordon Spencer, as the ground tint is primrose.

Remarks — Introducer's stock pure in 1910.

ARTHUR UNWIN

Originated by Unwin.

Introduced by Unwin, 1910.

Donated by Unwin, 1910.

Description in brief — Large, waved, bicolor; carmine-purple and mauve-rose.

Description in detail — Color of standard carmine-purple 156 (1-2); wings mauve-rose 153 (1). Standard large, slightly waved; wings waved, long and broad, concealing the keel. Flowers two to four, on long, strong stems. Fragrant. Sunproof. Plant of medium height and stout, healthy growth.

Comparison — A deeper color than Colleen when viewed on the plants.

BLANCHE* FERRY SPENCER

Donated by Rawson, Vick, 1910.

Description in brief — Supposed to be a waved variety of the color of Blanche Ferry.

Remarks — Mostly Apple Blossom Spencer. Contains a few Blanche Ferry, but they are not in Spencer form. Both stocks mixed with White Spencer and other varieties. Nothing has been received at this station since 1910 that could be called Blanche Ferry Spencer.

COLLEEN

Originated by William Deal.

Introduced by Deal, 1910.

Donated by Deal, 1910, 1912.

Description in brief — Large, waved, bicolor.

Description in detail — Color of standard carmine-purple 156 (1-2), wings violet-rose 154 (1), on a primrose ground. Flower large, waved form; standard large, waved; wings large, exposing the keel. Flowers three to four, on strong stems. Plant of average growth, strong, healthy. Tendrils colored.

Remarks — An unfixed stock in 1910. Some of the sports approach George Herbert. In 1912 the stock was variable. Some flowers have white wings and carmine-purple standards and some are almost selves; many show mottled flowers, especially as the flowers age.

MRS. ANDREW IRELAND

Originated by Dobbie.

Introduced by Dobbie, 1909.

Donated by Dobbie, 1910.

Description in brief — A large, rose bicolor, waved variety.

Description in detail — Color of standard lilac-rose 152 (3-4); wings lilac-rose 152 (1). Standard large, waved; wings waved, long and broad, concealing the keel. Flow-

ers two to three, on medium stems. Fragrant. Bloom profuse, continuous. Sunproof. Plant of medium height, more slender than most waved varieties, and of healthy growth.

Remarks — Has many double flowers.

MRS. CUTHBERTSON

Originated by Dobbie.

Introduced by Dobbie, 1912.

Donated by Burpee, Dobbie, 1912, 1913.

Description in brief — A large, rose bicolor, waved variety.

Description in detail — Color of standard deep rose-pink 120 (2-3); wings violet rose 154 (1-4); has a tendency to produce mottled flowers. Flower large to very large, waved form; standard large, waved; wings long and broad. Flowers usually three, sometimes four, on very long, strong stems. Moderately fragrant. Plant of medium height, healthy, vigorous. Tendrils colored.

Remarks — An improved Apple Blossom. The best variety in this color section.

NEW IMPROVED LUCY HEMUS

Originated by Miss Hemus.

Introduced by Miss Hemus, 1910.

Donated by Miss Hemus, 1910.

Description in brief — A large, waved, bicolor variety.

Description in detail — Color lilac-rose, standard 152 (2-3), wings 152 (1-2), on a primrose ground.

Synonyms — Synonymous with Apple Blossom Spencer, the probability of which the introducer admits.

Remarks — A very unfixed stock. The flowers became very mottled during the latter part of August.

TRIUMPH SPENCER

Originated by Bolton.

Introduced by Bolton, 1909.

Donated by Unwin, 1910.

Description in brief — A rose bicolor.

Description in detail — Color of standard purple-rose 150 (3-4); wings violet-rose 154 (1).

Comparison — A smaller, inferior, shorter-stemmed Apple Blossom Spencer, also of weaker growth. Distinct from Mrs. Andrew Ireland.

Remarks — Not fixed. Described as a salmon-pink bicolor.

Blue

BLUE JACKET

Originated by Stark.

Introduced by Stark, 1912.

Donated by Stark, 1912; Boddington, 1913.

Description in brief — A navy blue, waved variety.

Description in detail — Standard dark purple 191 (1); wings violet-purple 192 (2).

Flower large, waved form; standard large, waved slightly; wings long and broad, spreading. Flowers three, on long, strong stems. Moderately fragrant. A moderately productive variety. Plants of tall, strong growth. Leaflets broad, pointed.

Remarks — In 1913 this variety broke up, giving one half dark blue stripes. Had it not done this it might be recommended as the best dark blue variety.

FLORA NORTON SPENCER

*Originated by Morse.**Introduced by Morse, 1909.**Donated by Morse, 1910; Burpee, 1911; Waldo Rohnert, 1912.**Description in brief* — A medium-sized, slightly waved, blue variety for the garden.*Description in detail* — Color of standard ageratum blue 201 (1); wings 201 (2). Standard medium large, waved slightly; wings of medium size, long and narrow, concealing the keel. Flowers two to three, on medium stems. Fragrant. Bloom profuse, continuous. Plant of medium height and strong, healthy growth.*Comparison* — Not so pure a blue as Flora Norton. Does not equal Countess Spencer in size.*Remarks* — Contained plant of Navy Blue in 1910.

LESLIE IMBER

*Originated by Unwin.**Introduced by Unwin, 1913.**Donated by Unwin.**Description in brief* — Described as a medium blue, with deeper wings.*Description in detail* — Color of standard purplish mauve 186 (4); wings light bluish violet 202 (1-2); both become more blue with age. Flower large, waved form; standard large, waved; wings short and broad, concealing the keel. Flowers two to three, on medium stems. Moderately fragrant. Bloom profuse. Sunproof. Plant of tall, slender growth. Leaflets dark green.

MARGARET MADISON

*Originated by Morse.**Introduced by Burpee, Morse, 1912.**Donated by Burpee, Morse, 1912; Burpee, 1913.**Description in brief* — A large, waved, clear pale blue self.*Description in detail* — Color of standard bluish violet 199 (1); wings lavender-blue 204 (1), sometimes flaked darker. Flower large, waved form; standard large, waved; wings long and broad, spreading. Flowers two to three, on medium stems. No fragrance. Moderately productive. Wet weather injures badly. Plant of medium height. Leaflets stout, broad, pointed; tendrils green.*Comparison* — Slightly larger than Flora Norton Spencer.

MAY FARQUHAR

*Originated by Unwin.**Introduced by Unwin, 1911.**Donated by Unwin, 1913.**Description in brief* — A deep blue, waved variety.*Description in detail* — Color of standard plum-violet 172 (3-4), overlaid with deep purple; wings bright violet-purple 190 (2-3), with darker-colored back. Flower large, waved form; standard large, slightly waved; wings short and broad, concealing the keel. Flowers three to four, placed equidistant, close, on strong stems of medium length. No fragrance. Bloom profuse. Sunproof. Plant of tall, strong growth. Leaflets dark green, broad, round; tendrils green.*Remarks* — Probably the best dark blue waved variety that is fixed.

SHAWONDASEE

*Originated by Miss Hemus.**Introduced by Miss Hemus, 1910.**Donated by Miss Hemus, 1910.**Description in brief* — A medium-sized, garden variety.

Description in detail — Color of standard at base light bluish violet 202 (1), the upper part heliotrope 188 (2-3); wings 202 (1); the standard loses its pink color, becoming like the wings. Standard of medium size, slightly waved; wings of medium size, long and narrow. Flowers two to three, on fair stems. Fragrant. Bloom profuse. Plant of ordinary growth. Seed mottled.

Comparison — On trial grounds a deeper blue than Zephyr or Flora Norton Spencer.

Remarks — Stock pure.

SOUTHCOTE BLUE

Originated by Sutton.

Introduced by Sutton, 1913.

Donated by Sutton, 1913.

Description in brief — A waved, deep blue variety.

Description in detail — Color of standard ageratum blue 201 (1-2); wings lavender-blue 204 (1-2). Flower of medium size, waved form; standard moderately large, slightly waved; wings long and broad, concealing the keel. Flowers two to three, on long, strong stems. No fragrance. Bloom medium. Sunproof. Plant of tall, strong growth. Leaflets broad, round, dark green.

Comparison — Resembles Flora Norton Spencer.

ZEPHYR

Originated by Biffen.

Introduced by Miss Hemus, Unwin, 1909.

Donated by Miss Hemus, Unwin, 1910.

Description in brief — A medium-sized garden variety.

Description in detail — Color of standard ageratum blue 201 (1); wings 201 (2-3). Standard of medium size, slightly waved; wings of medium size, long and narrow. Flowers three, on fair stems. Fragrant. Bloom profuse. Plant of medium growth. Seed small, yellow-brown, wrinkled.

Comparison — Similar to Flora Norton Spencer.

Remarks — One stock fixed.

Blush

BLUSH QUEEN

Originated by Dobbie.

Introduced by Dobbie, 1907.

Donated by Dobbie, 1910.

Description in brief — A blush-pink of Unwin form. An excellent garden variety.

Description in detail — Color lilac white 7 (1), fading to white. Flower medium to large; standard medium to large, Unwin type; wings small, short and narrow, partly open. Flowers three, on long stems. Fragrant. Bloom very profuse. Plant of tall and moderately strong growth. Color in axils of leaflets. Seed black.

Remarks — A fixed stock. One of the best in the blush-pink group.

BOBBY K.

Originated by Chandler.

Introduced by Unwin, 1908.

Donated by Unwin, 1910.

Description in brief — A large, waved, blush-pink, fine garden variety.

Description in detail — Color of standard and wings lilac white 7 (1). Standard large, Spencer-waved; wings of medium size, partly open. Flowers three, on long, strong stems. Fragrant. Bloom profuse, continuous. Plant of moderately strong and vigorous growth. Color in axils of leaves. Seed round, black.

Comparison — Color is lighter than Florence Morse Spencer.

Remarks — A pure stock.

FLORENCE MORSE SPENCER

Originated by Morse.

Introduced by Morse, 1908.

Donated by Boddington, Morse.

Description in brief — A large, waved variety, for home, market, or exhibition use. Delicate blush, with pink margin.

Description in detail — Color of standard pale lilac-rose 130 (1); wings, front 130 (2), back 130 (3-4). Standard large, Spencer-waved; wings large, long and broad.

Flowers three, on long, strong stems. Moderately fragrant. Bloom profuse.

Comparison — Similar to Mrs. Hardcastle Sykes, which has the prior name.

Remarks — One stock pure.

LADY ALTHORP

Originated by Silas Cole.

Introduced by Cole, 1908.

Donated by Cole, 1910.

Description in brief — Introducer describes it as blush-white, changing to pure white.

Description in detail — Color of standard lilacy white 7 (3); wings mauve-rose 153 (1).

Flower of medium size; standard of medium size, Unwin form; wings long and narrow, concealing the keel. Flowers two to three, on long stems of fair strength.

Plant of tall, strong growth. Color in axils of leaves.

Comparison — Not equal to Mrs. Sankey Spencer, with which it is often grouped.

Remarks — A fixed stock. A deeper pink than any other variety of this group.

LADY EVELYN EYRE

Originated by Holmes.

Introduced by Sydenham, 1912.

Donated by Sydenham, 1912.

Description in brief — A very large, waved, blush-pink variety.

Description in detail — Standard cream-white, edged and flushed with bright rose 128 (1); wings lighter than 128 (1). Flower very large, waved form; standard very large, waved, often double; wings large, long and broad, spreading. Substance good. Flowers three, on long, strong stems. Very fragrant. Bloom profuse. Sunproof. Plant of tall, strong growth. Leaflets broad, pointed, dark green.

Comparison — Resembles Florence Morse Spencer in color, but is larger, has stronger stems, and gives a higher percentage of double or triple standards. The plant is stronger than Mrs. Hardcastle Sykes.

Remarks — The finest of the blush-pink varieties in 1912 and 1913.

LILA

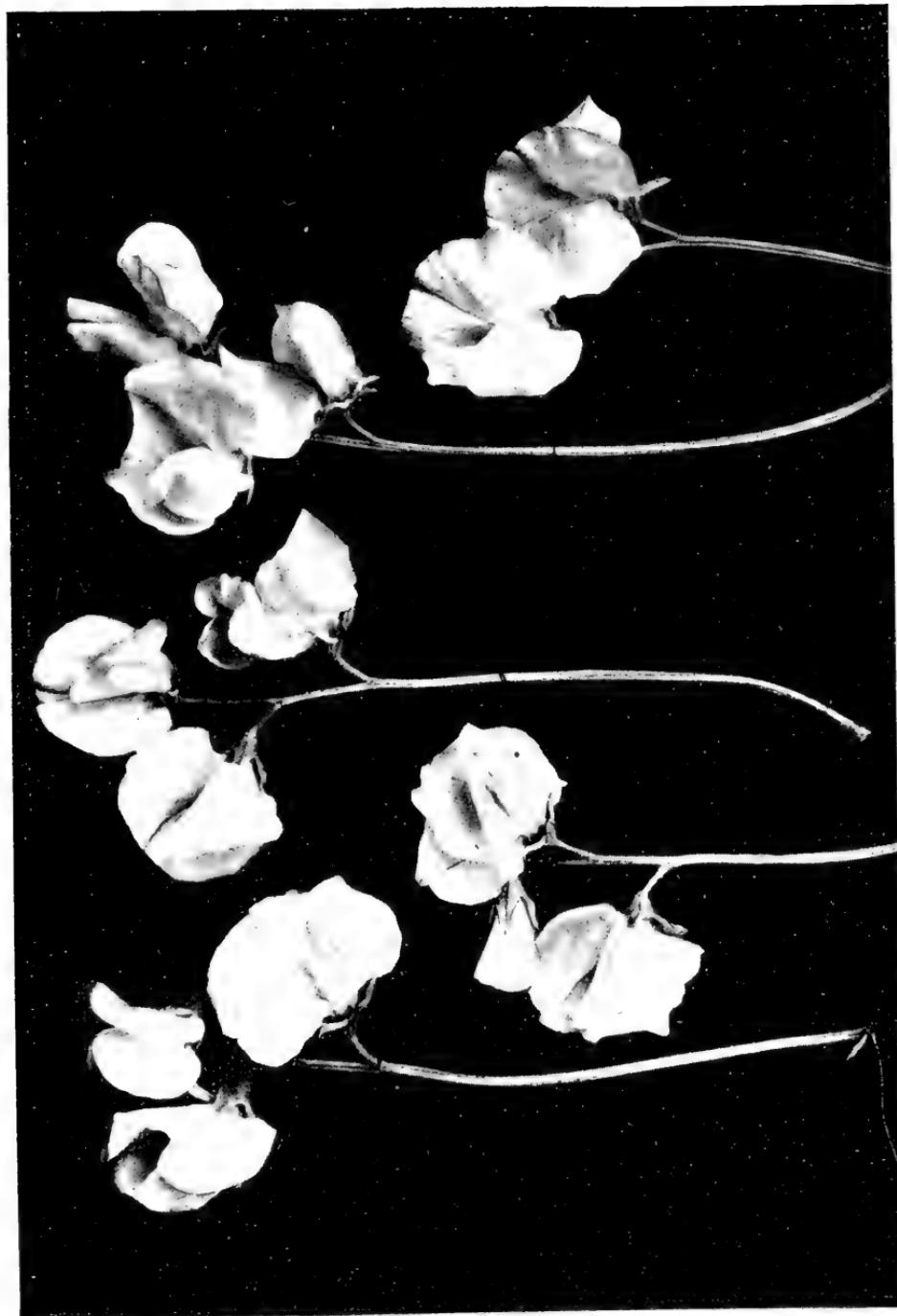
Originated by T. H. Dipnall.

Introduced by Dipnall, 1913.

Donated by Dipnall, 1913.

Description in detail — Color of standard lilacy white 7 (1), veined and flushed with pale lilac; wings snow white 2 (1). Flower medium large, waved form; standard large, very slightly waved; wings short, broad, concealing the keel. Flowers three, on medium stems. Moderate fragrance. Bloom profuse. Sunproof. Plant of tall, slender growth. Leaflets broad, round, dark green.

Remarks — This appears to be distinct. Promising. Stock without color rogues.



Florence Morse Spence
Paradise Ivory



John Ingman

LORNA DOONE*Originated by* Stark.*Introduced by* Stark, 1908.*Donated by* Boddington, 1910.*Comparison* — Said to be similar to Florence Morse Spencer and Bobby K.*Remarks* — Only one seed grew, and the plant produced white flowers without any trace of color.**MRS. HARDCASTLE SYKES***Originated by* Bolton.*Introduced by* Bolton, 1906.*Donated by* Boddington, Miss Hemus, 1910.*Description in brief* — A large, waved, blush-pink variety.*Comparison* — Indistinguishable from Florence Morse Spencer, and has the prior name.*Remarks* — One stock badly mixed.**PARADISE REGAINED***Originated by* Miss Hemus.*Introduced by* Miss Hemus, 1908.*Donated by* Miss Hemus, 1910.*Description in brief* — A large-flowered, blush, garden variety.*Description in detail* — Color purplish-tinted white 6 (2-3). Standard large, slightly waved; wings long and broad, concealing the keel. Flowers three, on very long, strong stems. Fragrant. Bloom profuse. Plant of tall, strong growth. Tendrils colored; color in axils of leaves. Seed large, round, black.*Remarks* — A pure stock.**PRINCESS CATHERINE***Originated by* —————.*Introduced by* Bath, 1909.*Donated by* Vick, 1910.*Comparison* — The blush-pink selection was not superior to Blush Queen.*Remarks* — A very much mixed stock, containing plants with blush-pink, pink, primrose, and white flowers.**PRINCESS VICTORIA***Originated by* Dobbie.*Introduced by* Dobbie, 1908.*Donated by* Dobbie, 1910; Stark, Morse, Rohnert, 1912.*Description in brief* — A large, waved, light pink variety, especially fine for exhibition.*Description in detail* — Color of standard pale lilac-rose 130 (1-2); wings mauve-rose 153 (1-2). Flower large to very large; standard large to very large, very much waved; wings long and broad, concealing the keel. Flowers three to four, on long, strong stems. Fragrant. Plant of medium height and strong, healthy growth. Tendrils colored.*Comparison* — Opening flowers a deeper pink than Florence Morse Spencer, but fading to the same color. In 1910 was superior to Florence Morse Spencer and Mrs. Hardcastle Sykes, and this has since been verified.*Remarks* — A pure stock. Some seed-growers have assumed that this is Florence Morse Spencer, but such stocks can be distinguished from the true Princess Victoria.**Carmine****E. J. CASTLE***Originated by* Unwin.*Introduced by* Unwin, and Watkins & Simpson, 1907.*Donated by* Boddington, Rawson, Unwin, and Watkins & Simpson, 1910.*Description in brief* — A large, waved, carmine-rose variety, for garden or market use.

Description in detail — Color of standard lilac-rose 152 (4); wings solferino-red 157 (1). Standard fairly large, Unwin form; wings long and broad, hooded. Flowers two to four, on long, strong stems. Fragrance slight or none. Bloom profuse.

Comparison — Similar to John Ingman in color, but not so wavy nor so large. More productive than John Ingman.

Remarks — Two stocks pure. Unwin's stock was superior to all others.

GEORGE HERBERT

Originated by Breadmore.

Introduced by Breadmore, 1906.

Donated by Morse, Rawson, 1910.

Description in brief — A very large, waved, carmine-rose variety.

Comparison — Similar to John Ingman.

Remarks — Both stocks mixed, one with Othello, the other with White Spencer and Frank Dolby, one plant each.

JOHN INGMAN

Originated by Cole.

Introduced by Sydenham, 1905.

Donated by Boddington, Cole, Dobbie, Morse, Unwin.

Description in brief — A very large, waved, carmine-rose, fine, exhibition variety.

Description in detail — Color of standard lilac-rose 152 (4); wings solferino-red 157 (1). Standard large to very large, very waved; wings large, long, waved, concealing the keel. Flowers two to four, on long, strong stems. Fragrance very slight or none. Bloom free, continuous. Growth strong, vigorous, healthy. Seed black.

Comparison — Superior to E. J. Castle in form.

Remarks — All stocks were pure as to color. The English stocks were superior in form. The leader of its color.

PARADISE CARMINE

Originated by Miss Hemus.

Introduced by Miss Hemus, 1907.

Donated by Miss Hemus, 1910.

Description in brief — A large, waved, carmine-rose variety.

Comparison — Similar to John Ingman.

Remarks — A pure stock.

PHYLLIS UNWIN

Originated by Unwin.

Introduced by Unwin, and Watkins & Simpson, 1906.

Donated by Rawson, and Watkins & Simpson, 1910.

Description in brief — A large, waved, carmine-rose variety.

Description in detail — Color of standard lilac-rose 152 (1); wings solferino-red 157 (1). Standard large, Unwin form; wings long and broad. Flowers three, on long, strong stems. Bloom free, continuous. Plant of strong, healthy growth. Seed round and black.

Comparison — Similar to E. J. Castle, but paler.

Remarks — English stock pure.

Cerise

CHRISSE UNWIN

Originated by Unwin.

Introduced by Unwin, 1908.

Donated by Unwin, 1910.

Description in brief — A medium-sized, cerise variety, suitable for home decoration.

Description in detail — Color of standard lilac-rose (cerise) 152 (4); wings deep cerise 123 (1-2). Standard of medium size, slightly waved; wings partly open, long and broad. Flowers two to three, on long, strong stems. Fragrance slight or lacking. Bloom profuse. Burns badly in sunshine. Growth below medium height, slender. Tendrils colored and clinging. Seed black.

Comparison — Superior to Coccinea Paradise.

Remarks — A pure stock. The variety lacks size.

COCCINEA PARADISE

Originated by Miss Hemus.

Introduced by Miss Hemus, 1910.

Donated by Miss Hemus, 1910.

Description in brief — A cerise variety.

Description in detail — Color of standard Rose Neyron red 119 (3-4); wings 119 (1).

Synonyms — Appears to be Coccinea.

Remarks — Badly mixed with Red Paradise.

Cream, Buff, and Ivory

ALTHORP CREAM

Originated by Cole.

Introduced by Cole, 1910.

Donated by Cole, 1910.

Description in brief — A large, waved, primrose variety.

Description in detail — Color of standard yellowish white 13 (2-3); wings 13 (1).

Standard large, waved; wings long, very broad, concealing the keel. Substance poor. Flowers two to three, on strong stems of fair length. Moderately fragrant. Fairly productive. Plant of tall, strong, healthy growth. Seed white.

Comparison — Not equal to Primrose Spencer or Clara Curtis, which it is said to resemble.

Remarks — A mixed stock in 1910.

CLARA CURTIS

Originated by Bolton.

Introduced by Bolton, Sharpe, 1908.

Donated by Dobbie, Unwin, 1910.

Description in brief — A large, waved, primrose variety.

Description in detail — Color of standard yellowish white 13 (2-3); wings 13 (1).

Flower large to very large; standard large, Spencer-waved; wings large, waved. Flowers two to four, well arranged on long, strong stems. Moderately fragrant. Bloom profuse. Plant of tall, vigorous growth. Seed white.

Comparison — Similar to Primrose Spencer (Burpee, 1908), but all flowers truly waved.

Remarks — Both stocks pure.

DOBBIE'S CREAM

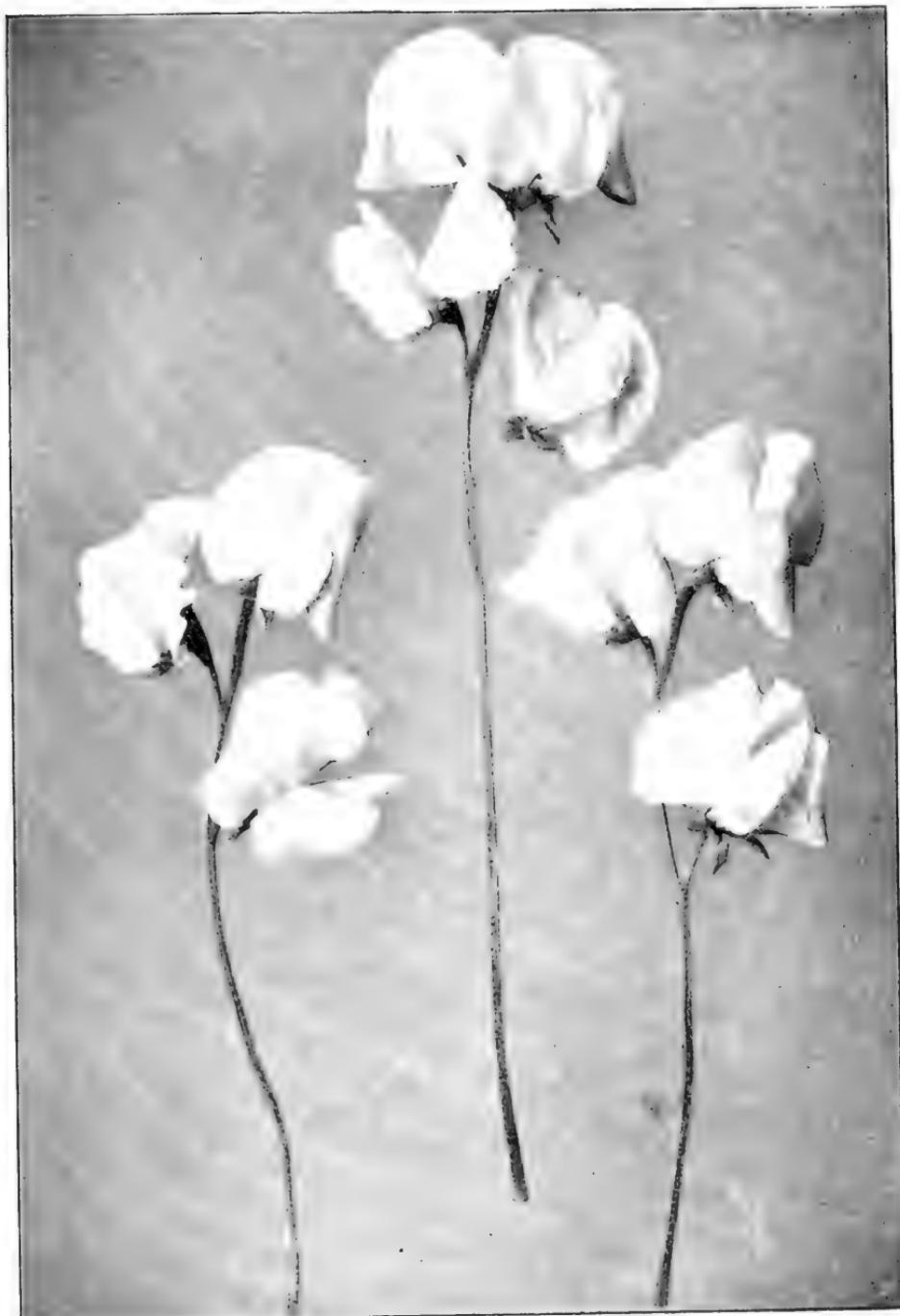
Originated by Dobbie.

Introduced by Dobbie, 1912.

Donated by Dobbie, 1912, 1913.

Description in detail — Color of standard and wings creamy white 10 (1-2). Flower large, waved form; standard large, sometimes double or triple; opens rich yellow, becoming lighter. Flowers usually three, on long, strong stems. Productive. Sunproof. Plant of tall, stout growth. Leaflets broad, round, dark green.

DOUBLE PRIMROSE BEAUTY*Originated by Stark.**Introduced by Stark, 1912.**Donated by Stark, 1912.**Description in brief* — Similar to Primrose Beauty in every respect except that it produces a few more double flowers.**ELAINE***Originated by Miss Hemus.**Introduced by Miss Hemus, 1910.**Donated by Miss Hemus, 1910.**Description in brief* — A medium-sized, ivory variety of waved form, useful for garden purposes.*Description in detail* — Color of standard fleshy white 9 (2-3); wings fleshy white 9 (3-4). Flower of medium size; standard of medium size, waved slightly; wings of medium size, short and broad, partly open, hooded. Flowers two to four, usually three, on long, strong stems. Fragrant. Bloom profuse. Plant of tall, strong growth. Some color in axils of leaves. Seed black.*Comparison* — Resembles Paradise Ivory.*Remarks* — Does not fulfill the originator's description.**GIANT CREAM WAVED***Originated by Deal.**Introduced by Deal, 1911.**Donated by Deal, 1912.**Description in brief* — A large, waved, cream variety.*Description in detail* — Flower large, waved form; standard large, waved, sometimes double; wings long and broad. Flowers usually three, sometimes four, on long, strong stems. Productive.*Comparison* — Not exceptional in size, being equal to Dobbie's Cream in this respect.**ISOBEL MALCOLM***Originated by Malcolm.**Introduced by Dobbie, 1911.**Donated by Dobbie, 1912.**Description in brief* — Large, waved, primrose self.*Description in detail* — Color of standard and wings yellowish white 13 (1-3). Flower large, waved form; standard large, much waved; wings large, long and broad, spreading. Flowers three to four, usually three, on long, strong stems. Moderately fragrant. Plant of tall, strong, healthy growth. Leaflets broad, pointed, with axillary color; tendrils green.*Comparison* — The general effect is paler than Clara Curtis. An excellent variety.**LADY KNOX***Originated by Dobbie.**Introduced by Dobbie, 1912.**Donated by Dobbie, 1912, 1913.**Description in brief* — Large, waved, flushed with pink on a cream ground.*Description in detail* — Color of standard fleshy white 9 (4), edges flushed with pale rosy pink 129 (1), brightest on the back; wings fleshy white 9 (1), with more delicate edge of pink. Flower large, waved form; standard large, much waved; wings long and broad, spreading. Flowers on long, strong stems; many doubles. Very fragrant. Very productive. Plant of tall, healthy growth. Tendrils green.



Elaine



Sunproof King

Comparison — At this station this variety was much superior to Paradise Ivory.

Remarks — A very beautiful variety; deserves to be included in all collections.

MAY PERRETT SPENCER

Originated by Malcolm.

Introduced by Malcolm, 1913.

Donated by Boddington, 1913.

Description in brief — Light pink on a buff ground.

Description in detail — Color of standard and wings light buff, flushed with pink.

Flower of medium size, grandiflora form; standard of medium size, erect; wings short and broad, concealing the keel. Flowers two to three, on long, strong stems.

No fragrance. Bloom moderate. Sunproof. Plant of tall, slender growth.

Leaflets broad, round, dark green.

Synonyms — Is May Perrett.

Remarks — Stock true to type.

PARADISE BEAUTY

Originated by Miss Hemus.

Introduced by Miss Hemus, 1910.

Donated by Miss Hemus.

Description in brief — A fairly large, waved variety, of ivory color.

Description in detail — Color rosy white 8 (1-2); wings 8 (3-4). Flower large; standard

large, slightly waved; wings medium to large, long and broad, concealing the keel.

Flowers two to four, on long, strong stems. Fragrant. Bloom profuse. A garden or market variety. Plant of moderately strong growth. Tendrils colored; color in axils. Seed black.

Comparison — Has more substance and less pink color in the flowers than Paradise Ivory.

Remarks — A fixed stock.

PARADISE IVORY

Originated by Miss Hemus.

Introduced by Miss Hemus, 1907.

Donated by Miss Hemus, Stark, 1910.

Description in brief — A medium to large, ivory-white, waved variety.

Description in detail — Color fleshy white 9 (1-2). Standard of medium size, slightly

waved; wings broad and medium long, concealing the keel. Flowers two to four,

usually three, on long, moderately stout stems. Extremely fragrant. Bloom

profuse. A home or market variety. Plant of medium height, strong. Color

in axils of leaves. Seed black.

Comparison — Lady Knox, a later introduction, surpasses this variety.

PRIMROSE BEAUTY

Originated by Stark.

Introduced by Stark, 1912.

Donated by Stark, 1912.

Description in brief — A large, waved, primrose variety.

Description in detail — Color of standard and wings yellowish white 13 (2-3). Flower

very large, waved form; standard very large, slightly waved; wings long and broad.

Flowers three, equidistant on long, strong stems. Moderately fragrant. Plant of very tall, strong growth. Leaflets broad, pointed; tendrils green.

Comparison — Dobbie's Cream opens with more yellow in the flowers. Appears to be

Mrs. Collier in Spencer form.

Remarks — The finest variety of this color.

PRIMROSE PARADISE

Originated by Miss Hemus.*Introduced by* Miss Hemus, 1908.*Donated by* Miss Hemus, 1910.*Description in brief* — A large, waved, primrose variety.*Description in detail* — Color of standard creamy white 10 (2-3); wings 10 (2). Plant of medium height and strong, healthy growth. Seed white.*Comparison* — Similar to Primrose Spencer.*Remarks* — A pure stock.

PRIMROSE SPENCER

Originated by L. C. Routzahn.*Introduced by* Burpee, 1908.*Donated by* Boddington, Henderson, Morse, Rawson, 1910; Burpee, 1911, 1912, 1913.*Description in brief* — A large, waved, primrose variety, for garden, market, or exhibition purposes.*Description in detail* — Front of standard yellowish white 13 (2-3), back 13 (4); wings 13 (1-2). Standard large, Spencer-waved; wings very large, long and broad, concealing the keel. Flowers two to four, well arranged on long, strong stems. Moderate fragrance. Bloom profuse, continuous. Plant of tall, vigorous growth. Seed white.*Comparison* — Similar to Clara Curtis (Bolton, 1908).*Remarks* — The standard variety of this color.

QUEENIE

Originated by Deal.*Introduced by* Deal, 1909.*Donated by* Deal, 1910, 1912.*Description in brief* — A medium to large, ivory-white, waved variety.*Description in detail* — Color of standard shades from rosy white 8 (2-3) to pale rosy pink 129 (2-3) at the edge; wings lilacy white 7 (1-2). Flower large; standard large, slightly waved; wings long and broad, concealing the keel. Flowers two to four, on long, moderately strong stems. Fragrant. Plant of moderate growth. Tendrils green. Seed black.*Comparison* — Resembles Paradise Ivory.*Remarks* — Badly unfixed in 1910. Fixed stock in 1912.

QUEEN VICTORIA SPENCER

Originated by _____.*Introduced by* Burpee, 1909.*Donated by* Morse, 1910; Burpee, 1911, 1912.*Description in brief* — A large, waved, black-seeded, primrose variety.*Description in detail* — Flower opens lilacy white 7 (4), changing to yellowish white 13 (2-3). Standard large, Spencer-waved; wings long and broad, concealing the keel. Flowers three, on strong stems of medium length. Moderate fragrance. Plant of tall, strong, healthy growth. Seed black.*Comparison* — Paradise Ivory is similar.*Remarks* — This variety, having dark-colored seed, is selected as the best cream variety, owing to difficulty in germinating varieties having light-colored seed.

SEAFOAM*Originated by Cole.**Introduced by Cole, 1910.**Donated by Cole, 1910.**Description in brief* — A medium to large, ivory-white, waved variety.*Description in detail* — Color creamy white 10 (1-2). Standard of medium size, slightly waved; wings long and broad, concealing the keel. Flowers two to four, on long, strong stems. Fragrant. Bloom profuse. A garden or market variety. Plant of moderately strong, healthy growth. Tendrils colored; color in axils of leaflets.*Comparison* — The wings are a deeper and brighter pink than those of Paradise Ivory.*Remarks* — A fixed stock.**Cream-Pink (Deep)****CONSTANCE OLIVER***Originated by W. Lumley.**Introduced by Lumley, 1908.**Donated by Dobbie, 1910.**Description in brief* — A large, waved, cream-pink variety.*Description in detail* — Color of standard peach blossom (pink suffused with cream) 127 (1); wings bright rose 128 (1). Flower very large; standard very large, much waved; wings long and broad, concealing the keel. Flowers two to four, usually three, on long, strong stems. Fragrant. Bloom profuse. Plant of medium height and strong growth. Tendrils colored.*Comparison* — Nell Gwynne is similar but is not fixed. Paradise Constance Oliver is an unfixed strain of this variety.*Remarks* — A pure stock.**DORIS USHER***Originated by A. E. Usher.**Introduced by Sutton, 1911.**Donated by Sutton, 1912.**Description in detail* — Color of standard rosy pink 118 (1-2); wings rosy pink 118 (2-3). Flower of medium size, waved form; standard of medium size, slightly waved; wings short and broad, spreading. Flowers two to three, equidistant on long, strong stems. Moderately fragrant. Bloom scant. Sunproof. Plant of tall, strong growth. Leaflets broad, pointed; tendrils colored.*Comparison* — Smaller than Mrs. Routzahn, but similar to it. Smaller flower, and lighter, softer, more even color, than Constance Oliver.**MARY GARDEN***Originated by Morse.**Introduced by Morse, 1912.**Description in brief* — A large, waved, double, cream-pink variety.*Description in detail* — Color of standard rosy pink 118 (1-2); wings same, with tinge of Tyrian rose 155 (1) on edge. Flower very large, waved form; standard very large, much waved, often double; wings long and broad, concealing the keel. Flowers three, irregular on long, slender stems. Moderately fragrant. Sunproof. Plant of tall, slender growth.*Comparison* — Burpee called a strain of this variety Duplex Mary Garden.*Remarks* — Stock contained color rogues.

MINNIE FURNELL*Originated by W. E. Alsen.**Introduced by Alsen, 1912.**Donated by Alsen, 1912.**Description in brief* — A pale pink, with a cream blotch at base of standard.*Description in detail* — Color of standard light rose 128 (1 or lighter), with cream blotch at base; wings light rose 128 (1 inside and 2-3 outside). Flower large, waved form; standard large, slightly waved. Flowers two to three, equidistant on strong stems of medium length. Moderately fragrant. Bloom scant in 1912. Sunproof. Plant of tall, strong growth. Leaflets broad, pointed; tendrils colored.**MIRIAM BEAVER***Originated by Morse.**Introduced by Burpee, 1910.**Donated by Burpee, Morse, Rawson, 1910.**Description in brief* — A large, Spencer-waved variety, of unusual color.*Description in detail* — The predominating color was as follows: standard salmon-pink 126 (1-2); wings 126 (1), shading to 126 (2-3) at base. Standard large, Spencer-waved; wings waved, long and broad. Flowers two to four, usually three, on long, strong stems. Fragrance slight. Bloom free. Sunproof. Plant of medium height and stout, healthy growth. Seed large, dark brown.*Comparison* — Deeper salmon-pink than Mrs. Routhahn.*Remarks* — Very unfixed.**MRS. GIBBS BOX***Originated by James Box.**Introduced by Box, 1912.**Donated by Box.**Description in brief* — Large, waved, rosy pink on a cream ground.*Description in detail* — Color of standard rosy pink 118 (1), wings 118 (2-3), on a cream ground. Flower large, waved form; standard large, slightly waved; wings long and broad, spreading. Flowers two to three, equidistant on long, strong stems. Little or no fragrance. Moderately productive. Plant of very tall, stout growth. Leaflets broad, pointed; tendrils green.*Comparison* — Is a lighter pink and has more cream than Constance Oliver. Has better stem and is more productive than Minnie Furnell.**NATOMA***Originated by Morse.**Introduced by Morse, 1912.**Donated by Morse, 1912.**Description in brief* — A large, salmon-buff, waved variety.*Description in detail* — Color of standard pale rosy pink 129 (2-3), inside tinted lilac-rose; wings lilac-rose 152 (1 or lighter), sometimes with violet-rose tints. Flower large, waved form; standard large, waved, sometimes double; wings short and broad, waved. Flowers irregular on very long, strong stems. Moderately fragrant. Moderately productive. Sunproof. Plant of very tall, strong growth. Leaflets broad, pointed.*Comparison* — Appears to be a Venus of Spencer form.

NELL GWYNNE*Introduced by Stark, 1908.**Originated by Stark.**Donated by Stark, 1910.**Description in brief* — A large, cream-pink, waved variety.*Comparison* — Similar to Constance Oliver.*Remarks* — One half or more of this stock were rogues of the color of John Ingman.**OLIVE RUFFELL***Introduced by Stark, 1908.**Originated by Stark.**Donated by Stark (selected stock), 1910.**Description in brief* — A large, waved, rosy salmon variety.*Description in detail* — Color of standard shades from lilac white 8 (4) to bright rose 128 (2-3) at base; wings purple-rose 150 (1). Standard and wings large and waved.

Flowers two to four, usually three, on long stems. Fragrant. Bloom profuse.

Plant of strong, healthy growth. Tendrils colored; color in axils of leaves.

Comparison — This is a deeper-colored Constance Oliver.*Remarks* — Not quite fixed when grown here in 1910.**Cream-Pink (Pale)****BERYL***Introduced by Aldersey, 1912.**Originated by Aldersey.**Donated by Aldersey (Aldersey's No. 151), 1912.**Description in brief* — "A creamy pink self." — Sweet Peas Up to Date.*Description in detail* — Color of standard salmon-pink 126 (1); wings bright rose 128 (1-2), brighter on edge. Flower large, waved form; standard large, waved; wings long and broad, spreading. Flowers equidistant on strong stems. Moderately fragrant. Moderately productive. Sunproof. Plant of tall, stout growth.*Comparison* — More cream than Constance Oliver and more rosy pink than Doris Usher.**CORONATION***Introduced by Bolton, 1912.**Originated by Bolton.**Donated by Sydenham, 1913.**Description in brief* — A large, pale cream-pink variety.*Description in detail* — Color of standard and wings creamy white 10 (1), overlaid with purple-rose 150 (1); the back of the standard is uniform with the color of the front, while the back of the wings is a deeper rose. Flower large, waved form; standard large, waved; wings short and broad, concealing the keel. Flowers three, equidistant, close, on strong stems of medium length. Moderately fragrant. Bloom profuse. Sunproof. Plant of very tall, stout growth. Leaflets broad, dark green; tendrils colored.*Remarks* — There are many varieties very nearly like this, yet it is worthy of trial by growers of sweet peas.**ELLA KELWAY***Introduced by Kelway, 1912.**Originated by* _____.*Donated by Kelway, 1912, 1913.**Description in brief* — A large, waved, pale cream-pink variety.*Description in detail* — Color of standard and wings creamy white 10 (2-3), overlaid and edged with light purple-rose; back of standard lighter in color and without

the edging; back of wings brighter pink. Flower large to very large, waved form; standard large, much waved; wings short and broad, concealing the keel. Flowers three to four, on strong stems of medium length. Very fragrant. Moderately productive. Sunproof. Plant of tall, slender growth. Leaves broad, pointed, dark green.

Remarks — A fine variety, but with such as Mrs. Routzahn, Mrs. Henry Bell, and Mrs. Hugh Dickson there seems no room for it. Stock true to type.

GLADYS BURT

Originated by Unwin.

Introduced by Unwin, 1908.

Donated by Unwin, 1910.

Description in brief — A very large, waved, salmon-pink variety. Suitable for all purposes.

Description in detail — Color mauve-rose 153 (2-3), on a primrose ground. Flower large to very large; standard large, very waved; wings long and broad, concealing the keel. Flowers three, on long, strong stems. Fragrant. Bloom profuse. Plant of fairly tall, vigorous, healthy growth. Tendrils colored; color in axils of leaves. Seed dark brown, small, round.

Comparison — Color is between that of Mrs. Routzahn and Constance Oliver.

Remarks — A pure stock.

HOLDFAST BELLE

Originated by Miss Hemus.

Introduced by Miss Hemus, 1910.

Donated by Miss Hemus, 1910.

Description in brief — A large, waved, cream-pink variety.

Comparison — Very similar to Mrs. Routzahn.

Remarks — A pure stock.

JULIET

Originated by Deal.

Introduced by Deal, 1912.

Donated by Deal, 1912.

Description in brief — Large, waved, rosy pink on a cream ground.

Description in detail — Color of standard rosy pink 118 (1), on a pale yellow ground; wings rosy pink 118 (2). Flower large, waved form; standard large, waved slightly; wings short and broad, spreading. Flowers irregular on long, strong stems. No fragrance. Bloom productive. Sunproof. Plant of tall, strong growth.

Comparison — Less vivid than Mrs. Routzahn at all stages. Worthy of trial because it gives a wider range of color within this group.

LADY MILLER

Originated by Malcolm.

Introduced by Dobbie, 1913.

Donated by Malcolm, 1912.

Description in brief — "Apricot on cream suffused pink." — Dobbie's catalogue.

Description in detail — Color of standard and wings shrimp pink 75 (1 or lighter). Flower large, waved form; standard large, slightly waved, sometimes double; wings long and broad, concealing the keel. Flowers three to four, irregular on long, strong stems. Moderately fragrant. Productive. Sunproof. Plant of tall, slender growth. Petioles and calyx brownish; tendrils colored.

Comparison — Better than Cherub. Not so large nor so much waved as Constance Oliver.

Remarks — Stock pure, true.

MRS. HENRY BELL

Originated by Bolton.

Introduced by Bolton, 1908.

Donated by Rohnert, 1912.

Description in brief — Large, waved, rich pink on a cream ground.

Description in detail — Color of standard bright rose 128 (1), with cream base; wings 128 (1), with considerable lilac-rose on the edges. Flower large, waved form; standard large, slightly waved; wings long and broad, spreading. Substance good. Flowers two to three, irregularly spaced on strong stems of medium length. Moderately fragrant. Bloom profuse. Plant of tall, strong growth. Leaflets broad, pointed; tendrils green.

Comparison — More purplish pink than Mrs. Routzahn and not so much pink as Holdfast Belle.

MRS. HUGH DICKSON

Originated by Dobbie.

Introduced by Dobbie, 1910.

Donated by Dobbie, 1910; Burpee, 1911; Morse, 1912.

Description in brief — A very large, cream-pink, waved variety.

Description in detail — Color of standard lilac-rose 130 (1) on a creamy white ground; wings salmon-pink 128 (1). Standard very large and very waved; wings long and broad, partly open. Substance good. Flowers three to four, on long, strong stems. Fragrant. Bloom free. Plant of strong growth. Seed large, round, black.

Comparison — This variety is earlier and has lighter primrose color than Mrs. Routzahn.

Remarks — A true stock. Commended.

MRS. ROUTZAHN

Originated by —

Introduced by Burpee, 1909.

Donated by Boddington, Burpee, Morse, 1910; Burpee, 1911, 1912.

Description in brief — A very large, cream-pink Spencer, suitable for all purposes.

Description in detail — Color pale lilac-rose 130 (2) on a yellowish white ground. Standard very large and very waved; wings long and broad, partly open. Flowers two to four, usually three, gracefully placed on long, strong stems. Fragrant. Bloom profuse, continuous. Plant of medium height and strong, healthy growth. Color in axils of leaves.

Remarks — All stocks pure. The standard variety of this color.

MRS. STEWART CHAMPION

Originated by Bide.

Introduced by Bide, 1911.

Donated by Bide, 1912.

Description in brief — A large, waved, cream-pink self.

Description in detail — Color of standard crushed strawberry 109 (1); wings Rose Neyron red 119 (1). Flower large, waved form; standard large, waved; wings long and broad, spreading. Flowers three, irregularly spaced on long, strong stems. Moderately fragrant. Productive. Sunproof. Plant of very tall, strong growth. Leaves very dark green; leaflets broad, often round; tendrils green.

Comparison — A superior strain of Mrs. Routzahn.
Remarks — A true stock.

QUEEN MARY

Originated by King.

Introduced by King, 1910.

Donated by King, 1913.

Description in brief — A large, waved, cream-pink variety.

Description in detail — Color of standard creamy white 10 (1), overlaid with lilac-rose 130 (1); wings salmon-pink 128 (1). Flower large, waved form; standard large, waved; wings short and broad, concealing the keel. Flowers three, equidistant, close, on strong stems of medium length. Moderately fragrant. Bloom profuse. Sunproof. Plant of tall, stout growth. Leaflets broad, rounded, dark green.

SUTTON'S QUEEN

Originated by T. Rothera & Co.

Introduced by Sutton, 1908.

Donated by Boddington, 1910; Sutton, 1912.

Description in brief — Medium to large, slightly waved variety.

Description in detail — Color pale lilac-rose 130 (1) on creamy white 10 (1), changing to almost white. Standard medium to large, slightly waved; wings of medium size, partly open. Flowers two to three, on medium stems. Moderate fragrance. Bloom not continuous. Plant below medium height, healthy.

Comparison — Inferior to Mrs. Routzahn.

Remarks — A mixed stock containing some plants of the color of E. J. Castle and Stella Morse in 1910. A pure stock from introducers in 1912.

W. T. HUTCHINS

Originated by _____.

Introduced by Burpee, 1910.

Donated by Burpee, Morse, 1910.

Description in brief — A large, cream-pink, waved variety.

Description in detail — Color yellowish white 13 (4), flushed with pale lilac-rose 130 (2-3), with deeper shade around the edges. Standard large, waved; wings long and broad, waved, concealing the keel. Flowers three, on long, strong stems. Fragrant. Plant of tall, strong growth. Color in axils of leaves. Seed black.

Remarks — One stock produced flowers with more pink color.

Crimson

CAPTIVATION SPENCER

Originated by Morse.

Introduced by Morse, Burpee, 1912.

Donated by Burpee, Boddington, 1912.

Description in brief — "A rich rosy wine red." — Sweet Peas Up to Date.

Description in detail — Color of standard amaranth-red 168 (1-3); wings rosy magenta 169 (1-2), veined darker. Flower large, waved form; standard large, slightly waved; wings long and broad, spreading or drooping. Substance good. Flowers two, on slender stems of medium length. Slightly fragrant. Not productive. Plant of medium height and slender growth. Leaflets broad, pointed; tendrils green.

Comparison — Similar to Rosie Adams.

CRIMSON GIANT*Originated by* Deal.*Introduced by* Deal, 1911.*Donated by* Deal, 1912.

Description in detail — Color of standard crimson-red 114 (1-2), veined darker; wings crimson-red 114 (1-2), with a slight purplish tinge. Flower large, waved form; standard large, slightly waved; wings large, long and broad. Flowers two to three, on strong stems of medium length. Slightly fragrant. Moderately productive. Burns slightly. Plant of tall, stout growth. Leaflets broad, pointed.

Comparison — Is more crimson and burns more than King Edward Spencer.

CRIMSON PARADISE*Originated by* Miss Hemus.*Introduced by* Miss Hemus, 1909.*Donated by* Miss Hemus, 1910.

Description in brief — A large, waved, crimson, all-purpose variety.

Description in detail — Color of standard carmine-purple 156 (3-4); wings 156 (1). Flower large to very large; standard very large, Spencer-waved; wings long and broad. Flowers two to four, on long, strong stems. Slight fragrance. Bloom profuse, continuous. Not sunproof. Plant of tall, vigorous growth.

Comparison — Superior to any of the strains of King Edward Spencer, except that it is not sunproof.

G. C. WAUD*Originated by* Cole.*Introduced by* Cole, 1910.*Donated by* Cole, 1910.

Description in brief — A large, waved, crimson-scarlet, garden variety.

Description in detail — Color of standard carmine-purple 156 (1-2); wings 156 (1). Standard large, slightly waved; wings large, waved, partly open. Flowers three, on long, strong stems. Moderate fragrance. Bloom profuse. Burns slightly. Plant of strong, healthy growth. Seed large and black.

Comparison — Similar to King Edward Spencer.

Remarks — Stock not fixed; contained one plant of John Ingman and one of Coccinea.

KING EDWARD SPENCER*Originated by* _____.*Introduced by* Burpee, 1909.*Donated by* Boddington, Burpee, Morse, Unwin, 1910; Burpee, 1911, 1912.

Description in brief — A large, carmine-scarlet, waved, garden or market variety.

Description in detail — Color of standard carmine-purple 156 (3-4); wings 156 (1). Standard large, moderately waved; wings very long and broad, not waved, concealing the keel. Flowers two to four, usually three, on long, strong stems. Very slight fragrance. Bloom profuse, continuous. Plant of tall, strong, healthy growth.

Comparison — The King is of superior form but is less resistant to the sun.

Remarks — All strains pure. Finest strains from Burpee and Morse.

LIBERTY*Originated by* _____.*Introduced by* Lumley, 1910.*Donated by* Farquhar, 1913.

Description in detail — Color of standard crimson-red 114 (1-2), veined darker; wings amaranth-red 168 (1-2), turning crimson, slightly darker on back. Flower large,

waved form; standard large, slightly waved; wings large, long and broad, concealing the keel. Flowers three, on short stems. No fragrance. Moderately productive. Burns. Plant of medium height and slender growth. Leaflets broad, round, dark green; tendrils green.

Remarks — Stock pure, true.

MRS. DUNCAN

Originated by Stark.

Introduced by Stark, 1910.

Donated by Stark, 1910; Boddington, 1912.

Description in brief — A large, waved, crimson, garden or market variety.

Description in detail — Color of standard crimson-red 114 (2-3); wings carmine-purple 156 (1). Standard large to very large, moderately waved; wings long and broad, concealing the keel. Flowers two to four, usually three, on long, strong stems. Very slight fragrance. Bloom profuse, continuous. Nearly sunproof. Plant of tall, strong, healthy growth.

Comparison — Not waved so much as the strains of The King.

Remarks — A fixed stock. Some flowers showed signs of burning, but did not blacken.

ORION

Originated by Holmes.

Introduced by Sydenham, 1912.

Donated by Sydenham, 1912.

Description in brief — "A large, deep reddish crimson." — Sweet Peas Up to Date.

Description in detail — Color of standard and wings lilac-purple 160 (2-3). Flower large, waved form; standard large, slightly waved; wings short and broad, spreading. Flowers three, irregularly placed on stems of medium length. Moderate fragrance. Moderately productive. Sunproof. Plant of tall, strong growth. Leaflets broad.

ROSIE ADAMS

Originated by Thomas Stevenson.

Introduced by Stevenson, H. J. Wright, 1908.

Donated by Farquhar, 1913.

Description in detail — Color of standard amaranth-red 168 (1-2); wings amaranth-red to deep purple; both standard and wings veined darker. Flower medium to large, waved form; standard large, waved; wings short and broad, concealing the keel. Flowers three, irregular on long, strong stems. No fragrance. Bloom profuse. Sunproof. Plant of tall, stout growth. Leaflets broad, pointed, dark green; tendrils green.

Comparison — Similar to Captivation Spencer.

Remarks — Stock mixed, one white rogue.

RUBY PALMER

Originated by _____.

Introduced by Dobbie, 1914.

Donated by Dobbie, 1912.

Description in detail — Color of standard and wings lilac-purple 160 (4), inside of wings shading 160 (1-2). Flower large, waved form; standard large, slightly waved, with slightly auriculate base; wings large, long and broad. Substance good. Flowers three, on medium stems. Moderately fragrant. Moderately productive. Sunproof.

Comparison — A trifle more purplish than King Edward Spencer. Darker than Marie Corelli.

SUNPROOF KING*Originated by Bide.**Introduced by Bide, 1910.**Donated by Bide, 1910.**Description in brief* — A very large variety, for garden, market, or exhibition use.*Description in detail* — Color of standard carmine-purple 156 (3-4); wings 156 (1).

Standard very large, much waved; wings long and broad, waved, partly open. Flowers two to four, on long, strong stems. Mild fragrance. Bloom profuse, continuous. Sunproof. Plant of strong, vigorous growth.

Remarks — A fixed stock. Everything considered, this was the finest strain of this color in 1910.

THE KING*Originated by Dobbie.**Introduced by Dobbie, 1909.**Donated by Dobbie, 1910.**Description in brief* — A very large, waved variety.*Description in detail* — Color of standard carmine-purple 156 (3); wings 156 (1).

Standard very large, very waved; wings large, waved, partly open. Flowers three, equidistant on long, strong stems. Very slight fragrance. Plant of vigorous, healthy growth.

Comparison — Superior to King Edward Spencer in size and form, but the flowers turn black under a hot sun.

Remarks — A fixed stock.**Fancy****AFTERGLOW***Originated by Bolton.**Introduced by Bolton, 1911.**Donated by Burpee, 1913.**Description in brief* — Reddish mauve, with violet wings.

Description in detail — Color of standard purplish mauve 186 (4 or darker); wings bright violet 198 (2-3). Flower large, waved form; standard large, much waved; wings long and broad, concealing the keel. Flowers three to four, equidistant, close, on strong stems of moderate length. Moderately fragrant. Moderately productive. Sunproof. Plant of medium height and stout, healthy growth. Leaflets broad, pointed, dark green; tendrils clinging.

CHARLES FOSTER*Originated by Bolton.**Introduced by Bolton, 1911.**Donated by Burpee, 1913.**Description in brief* — "Pastel pink shaded lavender." — Sweet Peas Up to Date.

Description in detail — Color bright rose 128 (1-2) flushed with lavender, deeper at base; wings bright rose 128 (1-2), with less lavender. Flower large, waved form; standard large, waved, with round top and broad base; wings large, long and broad, concealing the keel. Flowers three to four, equidistant, close, on short, strong stems. Moderately fragrant. Moderately productive. Burns slightly. Plant of medium height and stout, healthy growth. Leaflets broad, pointed, dark green.

Remarks — Stock pure, true to type.

Lavender**ASTA OHN***Originated by* Henry Ohn.*Introduced by* Morse, 1909.*Donated by* Morse, Rawson.*Description in brief* — Large, waved, lavender suffused with mauve.*Description in detail* — Standard purplish mauve 186 (1-2), changing to ageratum blue 201 (2); wings pale light lilac 187 (1), changing to Parma violet 200 (3-4). Standard large, waved; wings very large, waved, long and broad, concealing the keel. Flowers two to three, on strong stems of medium length. Fragrant. Bloom profuse, continuous. A garden and market variety. Plant of medium height and stout, healthy growth. Seed mottled.*Comparison* — At this station this variety always has more mauve color than Frank Dolby, although it changes to blue.**BERTRAND W. DEAL***Originated by* Deal.*Introduced by* Deal, 1910.*Donated by* Deal, 1911.*Description in brief* — A waved, rosy mauve variety.*Description in detail* — Color of standard pale lilac-rose 178 (2-3); wings pale light lilac 187 (1). Flower very large, waved form; standard very large, much waved; wings very large, long and broad, spreading. Flowers three, on very long stems of medium strength. Moderately fragrant. Moderately productive. Plant of moderately tall, slender growth. Leaflets broad, pointed; tendrils green.**DORA***Originated by* —————.*Introduced by* Bath.*Donated by* Bath, 1912.*Description in brief* — A waved, lavender variety.*Description in detail* — Color of standard bishop's violet 189 (1-2), veined with light violet 198 (3-4); wings bright violet 198 (1). Flower large, waved form; standard large, slightly waved; wings long and broad, spreading. Flowers on medium, slender stems. Very fragrant. Moderately productive. Burns slightly and is badly injured by wet weather. Plant of tall, strong growth. Leaflets broad, pointed.*Comparison* — Similar to Asta Ohn.**DRAGONFLY***Originated by* Aldersey.*Introduced by* Aldersey, 1913.*Donated by* Aldersey, 1912.*Description in brief* — "Lavender on cream ground, wings lavender." — Sweet Peas Up to Date.*Description in detail* — Color of standard and wings bright violet 198 (1), with a rosy tinge. Flower large, waved form; standard large, slightly waved; wings long and broad, spreading. Substance poor. Flowers two to three, on long stems. Moderately fragrant. Bloom moderate. Plant of tall, strong growth.**FELICITY***Originated by* —————.*Introduced by* Bath, 1913.*Donated by* Bath, 1912.*Description in brief* — "A large waved lilac, flushed pink." — Introducer's description.

Description in detail — Color of standard and wings heliotrope 188 (1-2); standard sometimes darker on back near base. Flower of medium size, waved form; standard of medium size, slightly waved; wings long and broad. Substance poor. Flowers three, on strong stems of medium length. Moderate fragrance. Bloom medium. Sun fades badly. Plant of tall, strong growth.

Comparison — Lighter than Tennant Spencer. Distinct from Irish Belle.

FLORENCE NIGHTINGALE

Originated by Hugh Dickson.

Introduced by Burpee, 1911.

Donated by Burpee, 1911, 1912, 1913.

Description in brief — A large, waved, clear lavender self.

Description in detail — Color of standard bright violet-purple 190 (1-2); wings light bluish violet 202 (3-4). Flower large, waved form; standard large, slightly waved; wings long and narrow. Flowers three to four, irregularly spaced on long, strong stems. Moderately fragrant. Bloom profuse. Plant of tall, slender growth.

Remarks — A worthy variety.

FRANK DOLBY

Originated by Unwin.

Introduced by Unwin, and Watkins & Simpson, 1907.

Donated by Boddington, Rawson, Unwin, and Watkins & Simpson.

Description in brief — A fairly large, lavender variety of Unwin form.

Description in detail — Standard opens violet-mauve 195 (1-2), changing to Parma violet 200 (1-3); wings open lilac-mauve 199 (1), changing to ageratum blue 201 (1-2). Standard large, slightly waved; wings large. Flowers two to four, on long, strong stems. Fragrant. Bloom very profuse, continuous. A garden or market variety. Plant of medium height and strong, vigorous growth. Color in axils of leaves. Seed dark brown, mottled, small to medium in size.

FRANK UNWIN

Originated by Unwin.

Introduced by Unwin, 1910.

Donated by Unwin, 1910.

Description in brief — A large, waved variety, soft lavender suffused with mauve.

Description in detail — Color of standard bluish lilac 183 (1-2); wings heliotrope 188 (2-3). Standard large, Spencer-waved; wings of medium size, waved, short and broad. Flowers two to three, on stems of medium length and strength. Fragrant. Bloom profuse. A garden variety. Plant of medium height and slender growth. Seed dark brown, of medium size.

Comparison — This variety is distinct from Frank Dolby.

Remarks — A fixed stock. Late in the season some flowers are mottled.

IRISH BELLE

Originated by Dickson.

Introduced by Burpee, 1912.

Donated by Burpee, 1912.

Description in brief — "Rich lilac flushed pink." — Burpee's catalogue.

Description in detail — Color of standard and wings purplish mauve 186 (1-2). Flower large, waved form; standard large, slightly waved; wings large, long and broad. Flowers three, irregularly spaced on long stems of medium strength. Moderate fragrance. Moderately productive. Burns slightly. Plant of medium height and slender growth. Tendrils green.

Comparison — Lighter than Florence Nightingale or Mauve Queen, and darker than Felicity or Orchid.

Synonyms — Dream is another name for this variety.

Remarks — Received award of merit from American Sweet Pea Society in 1911.

IVANHOE

Originated by Dobbie.

Introduced by Dobbie, 1911.

Donated by Dobbie, 1912.

Description in brief — Soft heliotrope-mauve.

Description in detail — Color of standard purplish mauve 186 (1-2), shading into heliotrope 188 (1) in center; wings heliotrope 188 (1). Flower very large, waved form; standard very large, much waved, slightly auriculate; wings large, long and broad. Substance good. Flowers three, equidistant on long, strong stems. Very fragrant. Bloom profuse, continuous. Sunproof. Plant of tall, stout growth. Leaflets broad, pointed.

Comparison — Is lighter mauve and has more heliotrope than Betty. Larger and paler than Tennant Spencer.

LAVENDER QUEEN

Originated by _____.

Introduced by Dobbie.

Donated by Dobbie, 1912.

Description in brief — A very large, waved, lavender variety.

Description in detail — Color of standard bright violet 198 (1), flaked darker; wings ageratum blue 201 (1). Flower very large, waved form; standard very large, much waved; wings large, long and broad. Substance good. Flowers three to four, equidistant on long, strong stems. Very fragrant. Bloom profuse. Plant of tall, stout growth. Leaflets broad, pointed; tendrils green.

Comparison — Has more lavender and is of slightly better growth than Asta Ohn. Is similar to Florence Nightingale.

LAVENDER SPENCER

Originated by Stark.

Introduced by _____.

Donated by Stark, for advance trial, 1910.

Description in brief — A moderately large, waved, lavender variety.

Description in detail — Color of standard heliotrope 188 (1-2); wings 188 (1). Standard moderately large, Spencer-waved; wings waved, long and broad. Flowers two to three, on long, strong stems. Fragrant. Bloom profuse. Plant of medium height and slender, healthy growth. Tendrils colored; color in axils of leaves. Seed mottled.

Remarks — A pure stock.

LILAC QUEEN

Originated by Bath.

Introduced by Bath, 1910.

Donated by Bath, 1910.

Description in brief — A lilac variety, of Unwin form and size.

Description in detail — Standard purplish mauve 186 (2-3); wings 186 (1). Flower medium large; standard medium large, Unwin type, erect; wings medium, hooded, long and broad, concealing the keel. Flowers two, on long stems of medium strength. Fragrant. Bloom profuse. Sunproof. A garden variety. Plant of medium height and moderately strong, healthy growth. Seed small, wrinkled.

Remarks — A fixed stock.

MALCOLM'S NO. 14*Originated by* Malcolm.*Introduced by* _____.*Donated by* Dobbie, 1912.*Description in brief* — A very large, waved, heliotrope and bluish violet variety.*Description in detail* — Color of standard heliotrope 188 (3-4); wings light bluish violet 202 (1). Flower very large, waved form; standard very large, often much waved, with broad base; wings large, long and broad. Substance good. Flowers three, irregularly placed on strong stems of medium length. Not fragrant. Bloom moderate. Sunproof. Plant of tall, stout, healthy growth. Leaflets broad, pointed; tendrils green.*Comparison* — Less mauve than Asta Ohn. Similar to Florence Nightingale.**MANDOLINE***Donated by* Dobbie, 1912.*Description in brief* — A very large, reddish lavender flower.*Description in detail* — Color of standard and wings bright violet 198 (1-2). Flower very large, waved form; standard very large, often double, slightly waved, with slightly auriculate base; wings very large, long and broad. Substance good. Flowers three, equidistant on long stems of medium strength. Moderate fragrance. Bloom profuse. Plant of medium height and slender growth.*Comparison* — Similar to Asta Ohn.**MASTERPIECE***Originated by* Malcolm.*Introduced by* Dobbie, 1910.*Donated by* Dobbie, 1910.*Description in brief* — Large, pinkish or purplish mauve, changing to lavender, waved.*Description in detail* — Standard opens purplish mauve 186 (1), with edge of 186 (2-3); wings open heliotrope 188 (2); flower changes soon to Parma violet 200 (1); introducer says, "color is 201 (1) but paler." Standard large, Spencer-waved; wings large, waved, partly open, long and broad. Flowers two to four, on strong stems of medium length. Moderately fragrant. Bloom free, continuous. Plant of tall, strong, vigorous growth. Seed small, mottled.*Remarks* — A pure stock.**MAUVE BEAUTY***Originated by* _____.*Introduced by* Box.*Donated by* Box, 1912.*Description in detail* — Color of standard purplish mauve 186 (2-3), with violet tint on back and toward base; wings bright violet 198 (1-2), often splashed darker. Flower large, waved form; standard large, often double, slightly waved; wings long and broad, spreading. Substance good. Flowers two to three, on medium to long, slender stems. Moderately fragrant. Bloom profuse. Plant of tall, slender growth. Leaflets broad, pointed; tendrils green.*Comparison* — Similar to Asta Ohn and Florence Nightingale.**MAUVE SPENCER***Donated by* Burpee, for advance trial, 1910.*Description in brief* — A large, waved, mauve variety.*Description in detail* — Color of standard varies from violet-mauve 195 (1) to lilac-mauve 196 (1); wings 196 (4). Standard very large, Spencer-waved; wings very

large, waved, long and very broad. Flowers two to three, on long, strong stems. Bloom profuse. An exhibition variety. Plant of tall, stout growth. Tendrils colored; color in axils of leaves.

Comparison — Would supplant Frank Dolby.

Remarks — Unfortunately not fixed.

MRS. CHARLES FOSTER

Originated by Bakers.

Donated by Dobbie, 1910.

Description in brief — Large, lavender flushed with rose, waved.

Description in detail — Color of standard purplish mauve 186 (2), back heliotrope 188 (2-3); wings heliotrope 188 (2). Standard large, moderately waved; wings large, long and broad, partly open. Flowers two to three, on very long, strong stems. Fragrant. Bloom profuse. Plant of strong, tall growth. Germination poor.

Comparison — Here this variety was distinct this year from Frank Dolby, Masterpiece, and Asta Ohn.

Remarks — A fixed stock.

Introduced by Bakers, 1907.

MRS. REGINALD HILL

Originated by _____.

Introduced by King, 1913.

Donated by King, 1913.

Description in brief — "A lilac lavender." — King's catalogue.

Description in detail — Color of standard bluish lilac, overlaid with violet 183 (1), deeper at base; wings vinous-mauve 184 (1 or lighter), edged with bluish lilac. Flower of medium size, waved form; standard of medium size, slightly waved; wings short and broad, concealing the keel. Flowers two to three, equidistant, close, on medium stems. Not fragrant. Bloom profuse. Sunproof. Plant of tall, slender growth. Leaflets dark green, broad, pointed; tendrils green.

MOONSTONE

Originated by Aldersey.

Introduced by Aldersey, 1911.

Donated by Aldersey, 1912.

Description in brief — A pale heliotrope.

Description in detail — Color of standard lilac 187 (2-3) to heliotrope at the base; wings heliotrope 188 (1-2). Flower large, waved form; standard large, often double, slightly waved; wings long and broad, spreading. Substance poor. Flowers two to three, irregularly spaced on slender stems of medium length. Fragrance moderate. Moderately productive. Plant tall, slender. Leaflets narrow, pointed; tendrils green.

Comparison — Similar to Nettie Jenkins.

NETTIE JENKINS

Originated by Unwin.

Introduced by Unwin, 1911.

Donated by Unwin, for advance trial, 1910.

Description in brief — A large, waved, lavender, garden or exhibition variety.

Description in detail — Standard opens purplish mauve 186 (1), tinted faint blue; wings violet 200 (3); flower loses the pinkish color, becoming a very light lavender

200 (1-3). Flowers two to three, on long, strong stems. Fragrant. Bloom profuse, continuous. Plant of medium height and strong, healthy growth. Seed dark brown, small, irregular or wrinkled.

Comparison — Belongs to the Frank Dolby group, but is quite distinct.

Remarks — A pure stock.

ORCHID

Originated by Malcolm.

Introduced by Burpee, 1913.

Donated by Burpee, 1912.

Description in brief — Large, waved, lavender suffused with pink.

Description in detail — Color of standard purplish mauve 186 (1 or lighter), flushed with violet; wings heliotrope 188 (1 or lighter). Flower large, waved form; standard large, slightly waved; wings short and broad, concealing the keel. Flowers three to four, equidistant, close, on medium stems. Very fragrant. Productive. Sunproof. Leaflets broad, round, dark green; tendrils green.

PEARL GREY

Originated by Morse.

Introduced by Burpee, Morse, 1912.

Donated by Burpee, Boddington, 1912.

Description in brief — "A dove grey suffused light rose." — Burpee's catalogue.

Description in detail — Color Parma violet 200 (1-2). Flower very large, waved form; standard very large, much waved; wings large, long and broad, spreading. Substance good. Flowers three, on long stems of moderate strength. Very fragrant. Bloom profuse. Plant of very tall, stout growth.

Comparison — Seems to be a paler form of Orchid.

Remarks — Variety not fixed in 1912 or in 1913.

PRINCESS ALICE SPENCER

Originated by Routzahn.

Introduced by Bath, 1909.

Donated by Vick, 1910.

Description in brief — Flower large. Described in catalogue as light lavender, tinted with white.

Description in detail — Standard large, slightly waved; wings large, hooded, long and broad, concealing the keel. Flowers two to three, nearly always three, on long, strong stems. Fragrant. Bloom profuse, continuous. A garden variety. Plant of medium height and strong, healthy growth. Seed small, mottled.

Remarks — Very unfixed, since it contains all shades of lavender with a few white flowers.

QUEEN OF MAUVES

Originated by Sutton.

Introduced by Sutton, 1913.

Donated by Sutton, 1912.

Description in detail — Color of standard violet-mauve 195 (1), with more mauve on back; wings bluish violet 199 (1 or lighter). Flower large; standard slightly waved, with broad base; wings large, long and broad. Substance good. Flowers three, irregularly placed, but facing one way, on stems of medium length. Moderate fragrance. Bloom profuse. Sunproof. Plant of medium height, slender. Leaflets narrow, pointed; tendrils green.

Comparison — Has more lavender and shorter stems than Dorothy Tennant.

WALTER P. WRIGHT*Originated by* Unwin.*Introduced by* Unwin, 1912.*Donated by* Sydenham, Unwin, 1913.*Comparison* — Similar to Winifred Unwin (described below).**WINIFRED UNWIN***Originated by* Unwin.*Introduced by* Unwin, 1912.*Donated by* Unwin, 1913.

Description in detail — Color of standard lavender-blue 204 (1 or lighter), with lighter color on back; wings same as standard. Flower large, waved form; standard large, slightly waved; wings short and broad, concealing the keel. Flowers three to four, irregularly spaced, close, on long, strong stems. Moderately fragrant. Bloom profuse. Sunproof. Plant of very tall, strong growth. Leaflets broad, rounded, dark green; tendrils green.

Comparison — Similar to Walter P. Wright, and both are similar to Dobbie's True Lavender, a variety approved by the National Sweet Pea Society of England.

Magenta**MARKS TEY***Originated by* Dobbie.*Introduced by* Dobbie, 1913.*Donated by* Dobbie, 1912, 1913.

Description in brief — A large, bicolor variety, with rosy maroon standard and purple-violet wings.

Description in detail — Color of standard reddish violet 180 (1-4); wings bright violet-purple 190 (1-2). Flower very large, often double, waved form; standard very large, slightly waved; wings large, long and broad. Flowers three, on strong stems of moderate length. Moderately fragrant. Moderately productive. Burns slightly. Plant of medium height, stout. Leaflets broad, pointed; tendrils green.

Comparison — Slightly more red than Sutton's Royal Purple.

Remarks — This is placed in bicolor section in English lists. In general effect it belongs here.

MENIE CHRISTIE*Originated by* Dobbie.*Introduced by* Dobbie, 1908.*Donated by* Dobbie, 1910; Rohnert, 1912; Burpee, 1913.*Description in brief* — A large, waved, magenta variety.

Description in detail — Color of standard magenta 182 (2-4), veined darker; wings magenta with a violet tinge, to violet-purple 192 (1). Flower large, waved form; standard large, much waved; wings long and broad, spreading. Substance good. Flowers three, on slender stems of medium length. Very fragrant. Bloom profuse. Sunproof. Plant of tall, stout growth. Leaflets broad, pointed.

PURPLE*Originated by* Malcolm.*Introduced by* —*Donated by* Malcolm, Dobbie, 1912.*Description in brief* — A large, waved, reddish violet and deep purple variety.

Description in detail — Color of standard reddish violet 180 (3-4); wings deep purple 185 (1-2). Flower large, waved form; standard large, often double, slightly

waved; wings long and broad. Flowers two to four, on long, strong stems. Moderately fragrant. Moderately productive. Wet weather injures flowers badly. Plant of medium height and stout growth. Leaflets broad, pointed.

Comparison—Similar to Marks Tey and Menie Christie, but not so large nor so profuse in bloom. Produced more doubles than either of the above.

ROYAL PURPLE

Originated by _____.

Introduced by Sutton, 1912.

Donated by Sutton, 1912.

Description in brief—A large, waved, purple variety.

Description in detail—Color of standard deep purple 185 (2-3); wings bright violet-purple 190 (1). Flower large, waved form; standard large, slightly waved; wings long and broad, spreading. Flowers three, on long stems of medium strength. Very fragrant. Moderately productive. Burns slightly. Plant of tall, slender growth. Leaflets broad, pointed; tendrils colored.

Comparison—Less red than Marks Tey.

Marbled

MAY CAMPBELL

Originated by Dobbie.

Introduced by Dobbie, 1912.

Donated by Dobbie, 1912, 1913.

Description in detail—Color marbled on standard is Tyrian rose 155 (1), on a creamy white 10 (2) ground; wings slightly veined with the same color. Flower large, waved form; standard large, much waved; wings long and broad, spreading. Substance good. Flowers three, on long, strong stems. Moderately fragrant. Moderately productive.

Comparison—Is larger than Aurora Spencer.

Remarks—A very distinct variety. One of the commended varieties of 1912. Deserves a place on every list.

SWEET LAVENDER

Originated by Bath.

Introduced by Bath, 1910.

Donated by Bath, 1910.

Description in brief—“White ground, marbled lavender, charming flower; fixed.”—Introducer's description.

Remarks—This variety proved to be of two shades of red in equal proportions.

Maroon

ANNABEL LEE

Originated by Alsen.

Introduced by Alsen, 1913.

Donated by Alsen, 1912.

Description in brief—“A pale lilac almost white in center.”—Originator's description.

Description in detail—Color of standard dull purple-lake 170, with violet veining and shading at base; wings reddish violet 180 (1-2). Flower large, waved form; standard large, much waved; wings large, long and broad, spreading. Flowers three, irregular on long, strong stems. Fragrance moderate. Productive. Burns badly. Plant of tall, strong, healthy growth. Leaflets broad.

Remarks—One cream-pink rogue. Apparently this did not give us the true-colored variety.

BRONZE PARADISE*Originated by* Miss Hemus.*Introduced by* Miss Hemus, 1910.*Donated by* Miss Hemus, 1910.*Description in brief*—A waved maroon self.*Description in detail*—Color of standard deep purple 185 (4); wings 185 (1). Flower of medium size; standard of medium size, generally flat; wings partly open, long and narrow. Flowers two to three, on long stems of fair strength. Growth moderate. Plants were not healthy.*Comparison*—Differs from Paradise Maroon in having wings of the same color as the standard.*Remarks*—A fixed variety as to color.**CHARLES HEMUS***Originated by* Miss Hemus.*Introduced by* Miss Hemus, 1910.*Donated by* Miss Hemus, 1910.*Description in brief*—Originator described the variety as a red-mahogany self.*Description in detail*—Color of standard amaranth-red 168 (4); wings rosy magenta 169 (1); keel colored a lighter shade. Flower large; standard large and slightly waved; wings long and narrow. Flowers two to three, on long stems of moderate strength. Fragrance moderate. Plant of medium height and slender growth.

Foliage blue-green; calyx and pedicel blue-black. Seed dark brown, large, round.

Comparison—Does not closely resemble Black Knight in color.*Remarks*—A fixed stock. A distinct variety. Flowers turn darker with age.**CYRIL UNWIN***Originated by* Unwin.*Introduced by* Unwin, 1912.*Donated by* Unwin, 1913.*Description in brief*—Deep purple shaded with maroon, waved.*Description in detail*—Color of standard deep purple 185 (1), shaded with maroon, base bright violet-purple; wings bright violet-purple 191 (1-2), varying to light pansy-violet. Flower large, waved form; standard large, much waved; wings short and broad, concealing the keel. Flowers three to four, irregularly spaced on long, strong stems. Moderately fragrant. Bloom moderate. Sunproof. Plant of tall, strong growth. Leaflets broad, round, dark green; tendrils green.**DOUGLAS UNWIN***Originated by* Unwin.*Introduced by* Unwin, 1910.*Donated by* Unwin, 1910.*Description in brief*—A large, waved variety.*Description in detail*—Color plum-violet 172 (4). Standard large, slightly waved; wings waved, concealing the keel. Flowers three, on strong stems of medium length. Fragrance moderate. Plant moderately vigorous. Leaves narrow, pointed. Seed black.*Comparison*—Similar to Othello Spencer, but not so good a strain.*Remarks*—Stock mixed.

GARNET SPENCER*Originated by* _____.*Introduced by* Henderson, 1910.*Donated by* Henderson, 1910.*Description in brief* — A very large, maroon, waved variety, fine for exhibition.*Description in detail* — Color of standard plum-violet 172 (1-2); wings deep carmine-violet 174 (1-2). Standard very large, much waved; wings very long and broad, waved, concealing the keel. Flowers three, on long, strong stems. Moderately fragrant. Bloom profuse, continuous, lasts well on plant. Sunproof. Plant of tall, stout, healthy growth.*Comparison* — A fine strain of Othello Spencer, but unfixed.*Remarks* — Very much mixed, containing five varieties of waved form.**KING MANOEL***Originated by* Stark.*Introduced by* Stark, 1912.*Donated by* Stark, 1912.*Description in brief* — A large, waved, dark maroon variety.*Description in detail* — Color of standard plum-violet 172 (1), veined darker; wings deep purple 185 (3-4). Flower very large, waved form; standard very large, slightly waved; wings very large, long and broad, spreading. Substance good. Flowers three, close together on long, strong stems. Moderately fragrant. Moderately productive. Sunproof. Plant of tall, strong growth. Leaflets broad, pointed; tendrils green.*Comparison* — Has larger flowers and is of better growth than Othello Spencer.**NUBIAN***Originated by* House.*Introduced by* House, 1911.*Donated by* Burpee, 1913.*Description in brief* — A deep maroon self.*Description in detail* — Color of standard between purple-brown 166 and deep carmine-violet 174 (4 or darker); wings deep carmine-violet 174 (2-3). Flower large, waved form; standard large, slightly waved; wings short and broad. Flowers three, equidistant, close, on long, strong stems. Moderate fragrance. Bloom profuse. Sunproof. A garden, market, or exhibition variety. Plant of tall, slender growth. Leaflets broad, round, dark green.*Synonyms* — King Manoel is practically the same.*Remarks* — The best of this color group. Stock pure, true.**OTHELLO SPENCER***Originated by* Morse.*Introduced by* Burpee, Morse, 1909.*Donated by* Burpee, Morse, 1910.*Description in brief* — A very large, very waved, maroon variety, excellent for garden or exhibition use.*Description in detail* — Color of standard plum-violet 172 (4); wings deep purple 185 (1-2); flower has almost black veins. Standard very large, decidedly and uniformly waved; wings waved, very long and broad. Flowers three, on long, strong stems. Fragrance slight or none. Bloom profuse, continuous. Plant of tall, strong growth. Seed large, round, few in number.

Comparison — Long the standard maroon waved variety, but now surpassed by Nubian and King Manoel.

Remarks — Both stocks fixed.

PRINCE OF ASTURIAS

Originated by Breadmore.

Introduced by Breadmore, 1908.

Donated by Rawson, 1910.

Description in brief — A large, waved, maroon, garden variety.

Description in detail — Color of standard plum-violet 172 (4); wings 172 (2-3). Standard large, waved; wings large, hooded, concealing the keel. Flowers two to three, on fair stems. Fragrant. Bloom free. Plant of moderately vigorous growth.

Comparison — Inferior to Othello Spencer.

Remarks — Stock mixed.

SILAS COLE

Originated by Cole.

Introduced by Cole, 1910.

Donated by Cole, 1910.

Description in brief — A large, deep maroon, waved variety.

Description in detail — Color of standard rich pansy-violet 191 (3-4); wings deep purple 185 (1). Standard medium to large, generally not waved; wings long and narrow, concealing the keel. Flowers two to four, on long stems. Bloom profuse. Plant of moderately tall, healthy growth. Calyx and pedicel blue-black.

Comparison — Resembles Black Knight in color.

Remarks — Contained one rogue. Did not attain to Spencer size or form.

VICTOR UNWIN

Originated by Unwin.

Introduced by Unwin, 1913.

Donated by Unwin, 1913.

Description in brief — "Rich deep chocolate or mahogany colored self, free from any trait of purple." — Unwin's catalogue.

Description in detail — Color of standard plum-violet 172 (3-4), tinged with violet; wings deep carmine-violet 174 (3-4). Flower large, waved form; standard large, waved; wings short and broad, concealing the keel. Flowers two to three, on short stems. Moderately fragrant. Moderately productive. Sunproof. Plant of medium height and slender, healthy growth. Leaflets broad, pointed, dark green.

Maroon-Purple

ARTHUR GREEN

Originated by Dobbie.

Introduced by Dobbie, 1911.

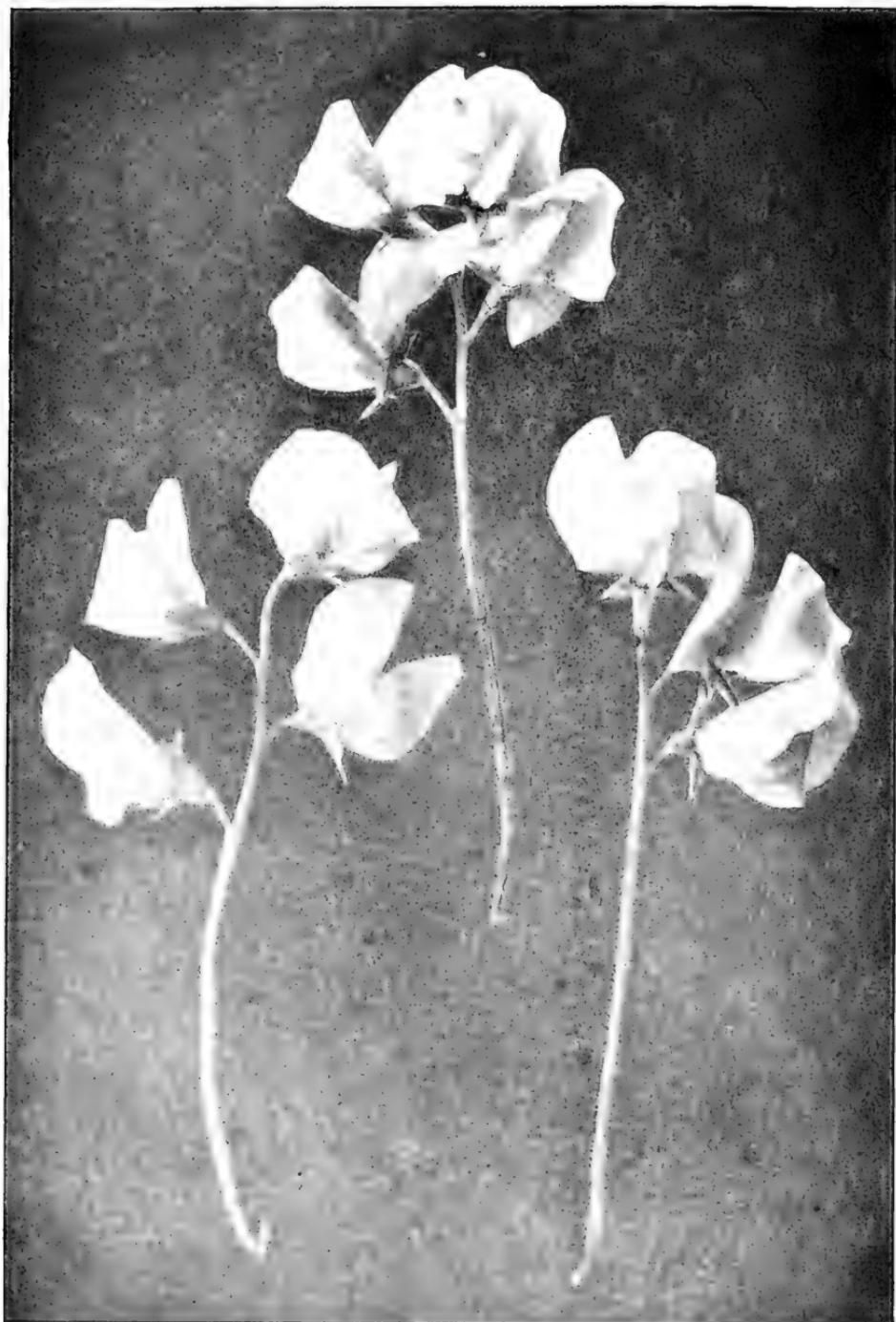
Donated by Boddington, 1911; Burpee, Dobbie, Morse, 1912; Burpee, 1913.

Description in brief — Standard carmine-violet; wings deep purple.

Description in detail — Color of standard deep carmine-violet 174 (3-4), veined darker; wings deep purple 185 (2-3), sometimes with slight tints and markings of violet-purple. Flower very large, waved form; standard very large, waved; wings long and broad, spreading but drooping. Flowers three to four, irregular on strong stems of medium length. Fragrance moderate. Moderately productive. Plant of tall, strong growth. Leaflets broad, pointed, dark green; tendrils green.



Othello Spencer



Tennant Spencer

CAPTAIN OF THE BLUES SPENCER

Originated by Morse.*Introduced by* Morse, 1909.*Donated by* Morse, 1910; Burpee, 1911.*Description in brief* — A very large, waved variety, with bright purple standard and blue wings. Excellent for garden or exhibition.*Description in detail* — Color of standard reddish violet 180 (4); wings bishop's violet 189 (3). Standard very large, much waved; wings large, waved, long and broad. Flowers two to four, on long, strong stems. Fragrant. Bloom profuse, continuous, lasts well on the plants. Sunproof. Plant of tall, stout, healthy growth.*Remarks* — Not fixed. Not correctly named, since it does not resemble Captain of the Blues in color. One of the largest-flowered varieties.

JOHN RIDD

Originated by Stark.*Introduced by* Stark, 1912.*Donated by* Stark, 1912; Boddington, 1913.*Description in brief* — "A large, waved, purple self." — Sweet Peas Up to Date.*Description in detail* — Color of standard plum-violet 172 (4); wings vinous-mauve 184 (4). Flower large, waved form; standard large, waved, slightly auriculate; wings large, long and broad, spreading. Substance good. Flowers three to four, on long, strong stems. Very fragrant. Bloom scant to medium. Plant of tall, strong growth. Leaflets broad, pointed; tendrils green.*Remarks* — Stock pure, true.

MAROON PARADISE

Originated by Miss Hemus.*Introduced by* Miss Hemus, 1909.*Donated by* Miss Hemus, 1910.*Description in brief* — "Deep maroon, waved." — Sweet Pea Annual.*Description in detail* — Color of standard deep purple 185 (2-3); wings bishop's violet 189 (2-3); reverse bright violet-purple 190 (4). Flower large, waved form; standard large, Spencer-waved; wings long and broad, spreading. Flowers three, equidistant on long stems. Bloom profuse. Sunproof. Plant of medium height and stout, healthy growth. Leaflets narrow, pointed; color in axils of leaves and leaflets; tendrils colored.*Comparison* — At this station in 1910 this variety was distinct from Black Knight.

MRS. E. COWDY

Originated by Bolton.*Introduced by* Bolton, 1913.*Donated by* Boddington, 1913.*Description in detail* — Color of standard plum-violet 172 (3-4); wings deep purple 185 (2-3), veined with plum-violet. Flower large, waved form; standard large, waved; wings short and broad, concealing the keel. Flowers three, equidistant, close, on medium stems. No fragrance. Moderately productive. Sunproof. Plant of tall, slender growth. Leaflets broad, pointed, dark green.*Comparison* — Similar to John Ridd, perhaps a less deep purple.*Remarks* — Stock pure, true.

PURPLE PRINCE SPENCER*Originated by* Dickson.*Introduced by* Burpee, 1911.*Donated by* Burpee, 1911.*Description in brief* — "Standard purplish maroon, wings rosy purple." — Sweet Peas Up to Date.*Description in detail* — Color of standard deep purple 185 (3); wings bishop's violet 189 (4). Flower very large, waved form; standard large, waved; wings large, long and broad. Flowers borne on long, strong stems. Plant of tall, strong, vigorous growth.*Comparison* — This is almost a self and therefore differs from Captain of the Blues Spencer. In this respect it is an improvement.*Remarks* — This is not the color of the old variety Purple Prince.**WAVERLY SPENCER***Originated by* Morse.*Introduced by* Morse, 1909.*Donated by* Burpee, 1911.*Description in brief* — "Purplish maroon, wings rosy purple." — Sweet Peas Up to Date.*Comparison* — Similar to Captain of the Blues Spencer, but smaller.*Remarks* — Only one plant appeared to resemble the old Waverly in color.**Maroon-Red****BRUNETTE***Originated by* Dobbie.*Introduced by* Dobbie, 1913.*Donated by* Dobbie, 1913.*Description in brief* — A large, waved, rich deep mahogany self.*Description in detail* — Color of standard and wings plum-violet 172 (4 or darker). Flower large, waved form; standard large, much waved; wings large, concealing the keel. Flowers two to three, on medium stems of short length. No fragrance. Bloom profuse. Burns slightly. Plant of medium height and slender growth. Leaflets narrow, pointed, dark green; tendrils green.*Remarks* — An excellent variety. Stock pure, true.**RED CHIEF***Originated by* Bolton.*Introduced by* Bolton, 1910.*Donated by* Sydenham, 1913.*Description in detail* — Color of standard plum-violet 172 (4 or darker); wings plum-violet 172 (1-2). Flower large, waved form; standard large, waved; wings long and broad, concealing the keel. Flowers three, on strong stems of medium length. Moderately fragrant. Moderately productive. Sunproof. Plant of tall, slender growth. Leaflets broad, round, dark green.*Remarks* — With Brunette the leader of its class.**Mauve****A. J. COOK***Originated by* Unwin.*Introduced by* Unwin, and Watkins & Simpson, 1907.*Donated by* Rawson, Unwin, and Watkins & Simpson, 1910.*Description in brief* — A moderately large, violet-mauve variety, of Unwin form.

Description in detail — Standard opens violet-mauve 195 (1), changing to 195 (4); wings tinted with more violet, which becomes deeper, toward bright violet-purple 190 (1). Standard medium to large, Unwin type; wings long and broad, concealing the keel. Flowers two to three, on long, strong stems. Fragrant. Bloom profuse, continuous. A garden or market variety. Plant of medium height and stout, healthy growth. Seed small, mottled.

Remarks — A distinct and worthy variety. One stock pure; rogues mostly Othello.

AMETHYST

Originated by Aldersey.

Introduced by Aldersey, 1911.

Donated by Aldersey, 1912.

Description in detail — Color of standard pure mauve 181 (3-4), shading to bright violet at base; wings bright violet 198 (1), sometimes with a rosy tinge. Flower large, waved form; standard large, slightly waved; wings long and broad, spreading. Moderate fragrance. Moderately productive. Plant of tall, slender growth. Leaflets broad, pointed; tendrils green.

Comparison — Similar to Royalty.

BERTHA MASSEY

Originated by Bide.

Introduced by Bide, 1912.

Donated by Boddington, 1912, 1913.

Description in brief — A large, waved, lilac-mauve variety.

Description in detail — Color of standard pure mauve 181 (1-2); wings bright violet 198 (1-2), edged with purplish mauve. Flower large, waved form; standard large, slightly waved; wings long and broad, concealing the keel. Flowers three, equidistant, close, on medium stems. Moderate fragrance. Productive. Sunproof. Plant of medium height and slender growth.

Comparison — Surpassed by Frances Deal.

Remarks — Stock pure in 1912, mixed in 1913.

BETTY

Originated by Dobbie.

Introduced by Dobbie, 1912.

Donated by Dobbie, 1912.

Description in brief — A purplish mauve variety.

Description in detail — Color of standard pure mauve 181 (1), shading often to purplish mauve 186 (1); wings purplish mauve. Flower very large, waved form; standard very large, much waved, slightly auriculate; wings very large, long and broad. Flowers three, equidistant on long stems of medium strength. Moderately fragrant. Bloom moderate. Sunproof. Plants of tall, slender, healthy growth. Leaflets broad, pointed; tendrils colored.

Comparison — Has paler and larger flowers than Tennant Spencer.

EMILY ECKFORD SPENCER

Originated by — — — —.

Introduced by Burpee, 1911.

Donated by Burpee, for advance trial, 1910.

Description in brief — A large, mauve, Spencer variety.

Description in detail — Standard opens bluish lilac 183 (1), changing to bright violet 198 (1); wings heliotrope 188 (3), changing to bright violet 198 (2). Standard large, slightly waved; wings partly open, long and broad. Flowers two to three.

Fragrant. Bloom profuse. A garden, market, or exhibition variety. Plant of medium height and stout, healthy growth. Color in axils of leaves. Seed mottled.

Comparison — Distinct in color from The Marquis.

Remarks — A fixed stock.

EMPRESS

Originated by Deal.

Introduced by Deal, 1911.

Donated by Deal, 1912.

Description in brief — A rich purple-mauve.

Description in detail — Color of standard reddish violet 180 (1); wings deep purple 185 (1). Flower very large, waved form; standard very large, waved, sometimes double; wings very large, long and broad, spreading. Flowers two to three, on medium stems. Very fragrant. Productive. Sunproof. Plant of tall, strong growth. Leaflets broad.

Comparison — Has less red in standard, but otherwise is similar to Annabel Lee.

Remarks — Color rogues: (1) pure cream, (2) pale rosy pink.

FRANCES DEAL

Originated by Deal.

Introduced by Deal, 1912.

Donated by Deal, 1912.

Description in brief — "A rosy heliotrope." — Sweet Peas Up to Date.

Description in detail — Color of standard and wings reddish violet 180 (1), with a light spot at base of standard. Flower very large, waved form; standard very large, much waved; wings large, long and broad, spreading. Flowers two to three, irregularly placed, usually far apart, on long, strong stems. Moderate fragrance. Bloom profuse. Sunproof. Plant of tall, strong, healthy growth. Leaflets broad, pointed; tendrils colored.

Comparison — Superior to Bertha Massey.

HELIO PARADISE

Originated by Miss Hemus.

Introduced by Miss Hemus, 1910.

Donated by Miss Hemus, 1910.

Description in brief — Large, pale rosy heliotrope, waved.

Description in detail — Color of standard purplish mauve 186 (1-2), deepest at base; wings bishop's violet 189 (2). Standard large, Spencer-waved; wings large, waved, long and broad. Flowers two to three, on long, strong stems. Moderately fragrant. Bloom profuse. Sunproof. Plant of medium height and moderately strong growth. Tendrils colored; color in axils of leaves. Seed mottled.

Comparison — Similar to The Marquis, but not superior.

Remarks — A fixed stock.

HELIOTROPE SPENCER

Originated by _____.

Introduced by Henderson, 1910.

Donated by Henderson, 1910.

Description in brief — Large, hooded, deep purple-mauve.

Description in detail — Color of standard bishop's violet 189 (1-2); wings 189 (1-3). Standard large, hooded; wings large, long and broad, concealing the keel. Flowers

two, on long, strong stems. Very fragrant. Bloom profuse, continuous. Plant of medium height and strong, healthy growth. Color in axils of leaves. Seed mottled, large.

Comparison — Color similar to Mrs. Walter Wright.

Remarks — A pure stock. Flowers did not take Spencer form.

MAUVE PARADISE

Originated by Miss Hemus.

Introduced by Miss Hemus, 1910.

Donated by Miss Hemus, 1910.

Description in brief — A medium-sized, mauve variety.

Description in detail — Color of standard bluish lilac 183 (1); wings 183 (1-2). Standard of medium size; wings large, long and narrow, spreading. Flowers two to three. Moderate fragrance. Bloom medium. Burns slightly. Plant of medium height and stout, healthy growth. Seed mottled.

Comparison — Wings always paler than those of The Marquis or Tennant Spencer.

Remarks — Introducer stated that the stock might give some Primrose Paradise sports. This occurred in the tests at this station.

MAUVE QUEEN

Originated by Dobbie.

Introduced by Dobbie, 1912.

Donated by Dobbie, 1912.

Description in brief — A large, waved, mauve variety.

Description in detail — Color of standard purplish mauve 186 (1), shading toward violet-mauve 195 (1) in center; wings violet-mauve 195 (1). Flower very large, waved form; standard very large, slightly waved, with slightly auriculate base; wings very large, long and broad. Substance good. Flowers three, equidistant on medium stems. Very fragrant. Bloom profuse. Sunproof. Plant of medium height and slender, healthy growth. Leaflets broad, pointed; tendrils green.

Comparison — Similar to Winsome, but a trifle more purple.

MRS. HESLINGTON

Originated by W. S. Heslington.

Introduced by Dobbie, 1912.

Donated by Dobbie.

Description in detail — Color of standard purplish mauve 186 (1-2), shading to bright violet 198 (1-2) in the center; wings bright violet 198 (1-2). Flower very large, waved form; standard very large, often double, much waved, with auriculate base; wings long and broad. Substance good. Flowers three, equidistant on long stems of medium strength. Moderate fragrance. Bloom profuse. Sunproof. Plant of tall, slender, healthy growth. Leaflets broad, pointed; tendrils green.

Comparison — Very similar to Mauve Queen, but differs in form of flower and in color of wings. More mauve than Florence Nightingale.

ROYALTY

Originated by Bath.

Introduced by —

Donated by Bath, 1912.

Description in detail — Color of standard reddish violet 180 (1); wings bright violet-purple 190 (1). Flower of medium size, waved form; standard of medium size,

slightly waved; wings of medium size, drooping. Flowers three, on medium stems. Moderate fragrance. Bloom profuse.

Comparison — Much like Dobbie's Violet Flush.

Remarks — Of no special merit at this station.

TENNANT SPENCER

Originated by Morse.

Introduced by Morse, 1909.

Donated by Morse, 1910; Burpee, 1911.

Description in brief — Large, waved, purple-mauve self.

Description in detail — Color of standard purplish mauve 196 (2-3); wings 186 (1-2) on the inside, 186 (2-3) on the outside. Standard large, waved; wings waved, long and broad, concealing the keel. Flowers two to four, often four, on strong stems of medium length. Very fragrant. Bloom profuse, continuous. Plant of medium height and moderately strong growth. Tendrils colored; color in axils of leaves. Seed mottled.

THE MARQUIS

Originated by Dobbie.

Introduced by Dobbie, 1908.

Donated by Dobbie, 1910.

Description in brief — A large, purplish mauve, waved variety.

Description in detail — Color of standard purplish mauve 186 (4); wings bishop's violet 189 (4); the standard showing more red and the wings more blue. Standard large, waved; wings very large, waved, long and broad, concealing the keel. Flowers two to three, on long, strong stems. Fragrant. Bloom profuse. A garden, market, or exhibition flower. Plant of medium height and moderately strong growth. Seed mottled, wrinkled.

Remarks — The 1910 stock was mixed and contained one Gladys Unwin.

Orange-Pink

CARENE

Originated by —————.

Introduced by Watkins & Simpson, 1912.

Donated by Boddington, 1912, 1913.

Description in brief — A large, deep orange-pink variety.

Description in detail — Color of standard salmon-pink 126 (3-4), veined slightly darker; wings 126 (4), shading into purple-rose 150 (3-4) at base. Flower very large, waved form; standard very large, waved; wings very large, long and broad, open. Flowers two to three, equidistant on long, strong stems. Very fragrant. Bloom profuse. Plant of tall, slender growth. Leaflets broad, pointed; tendrils green.

Comparison — Is of stronger growth, has better flower stems and slightly larger flowers with more red in the wings, and exhibits less burning, than Stirling Stent.

EDITH TAYLOR

Originated by Holmes.

Introduced by Holmes, Sydenham, 1912.

Donated by Sydenham, 1912, 1913.

Description in brief — "A waved salmon-rose self." — Sweet Peas Up to Date.

Description in detail — Color of standard and wings cerise 123 (1-2); standard veined darker. Flower very large, waved form; standard slightly waved, very large;

wings large, long and broad, spreading. Flowers three, on long, stout stems. Fragrance almost none. Burns slightly. Wet weather injures slightly. Plant of medium height and slender growth. Leaflets broad, pointed.

Comparison — A little less orange than Helen Lewis.

EDROM BEAUTY

Originated by Malcolm.

Introduced by Dobbie, 1911.

Donated by Dobbie, 1912, 1913.

Description in brief — Standard orange, wings rosy salmon.

Description in detail — Color of standard salmon-pink 126 (2), with darker veins; wings purple-rose 150 (2). Flower very large, waved form; standard very large, Spencer-waved, sometimes double; wings large, long and broad. Flowers on long, strong stems. Bloom moderately productive, does not last well on the plant. Burns badly. Suffers slightly in wet weather. Plant of tall, strong growth. Leaflets broad, round; tendrils green.

GLYN TURQUAND

Originated by Alsen.

Introduced by _____.

Donated by Alsen, 1912.

Description in brief — Rich crimson-scarlet, with a suggestion of orange.

Description in detail — Color of standard and wings carmine-lake 121 (1-2), veined slightly darker. Flower large, waved form; standard large, slightly waved; wings long and broad, spreading. Flowers three, on strong, very long stems. No fragrance. Moderately productive. Burns slightly. Plant of tall, strong growth. Leaflets broad, pointed; tendrils green; foliage rich dark green.

Comparison — An improved Helen Lewis.

HELEN GROSVENOR

Originated by Aldersey.

Introduced by Aldersey, 1910.

Donated by Sydenham, 1912.

Description in brief — A deep orange-salmon.

Description in detail — Color of standard madder lake 122 (1-2), shading to deep rose-pink at the base; wings deep rose-pink 120 (2-3), delicately veined with darker color. Flower large, waved form; standard large, slightly waved, sometimes double; wings long and broad, spreading. Flowers two to four, irregularly arranged on long, strong stems. Moderately fragrant. Moderately productive. Burns slightly. Is somewhat injured by wet weather. Plant of tall, strong growth.

Comparison — Closely resembles Helen Lewis. Possibly a deeper color.

HELEN LEWIS

Originated by J. Watson.

Introduced by Breadmore, 1905.

Donated by Boddington, Dobbie, Morse, Unwin, 1910.

Description in brief — Large, waved, rosy scarlet and cerise. Popularly known as orange. Suitable for all purposes.

Description in detail — Color of standard bright rosy scarlet 124 (2-3); wings deep cerise 123 (1). Standard large, Spencer-waved; wings large, waved, long and broad, concealing the keel. Flowers two to four, on long, strong stems. Moderately fragrant. Plant of medium, stout, healthy growth. Seed black, large, round.

Synonyms — Orange Countess (Sydenham, 1905) and Mrs. Sydenham (Burpee, 1905).

Remarks — Of the four stocks received in 1910, two exhibited rogues.

LAURA WYATT

Originated by Dipnall.

Introduced by Dipnall, 1913.

Donated by Dipnall, 1912.

Description in detail — Color of standard salmon-pink 74 (1), with carmine veining; wings carmine-lake 121 (1-2). Flower large, waved form; standard large, slightly waved, sometimes double; wings long and narrow, spreading. Flowers two to three, on medium stems. Fragrance little or none. Moderately productive. Burns badly. Plant of tall, strong growth.

LORD ALTHORP

Originated by Cole.

Introduced by Cole, 1910.

Donated by Cole, 1910.

Description in brief — Large, waved, orange-pink.

Description in detail — Color of standard bright rosy scarlet 124 (2-3); wings deep cerise 123 (3-4).

Comparison — A fine strain of Helen Lewis, but does not stand the sun so well.

Remarks — A pure stock.

ORANGE SPENCER

Originated by — .

Introduced by Henderson, 1910.

Donated by Henderson, 1910.

Description in brief — A large, orange, Spencer variety.

Description in detail — Color of standard rosy scarlet 124 (2-3); wings cerise 123 (2-3).

Comparison — Similar in color to Miss Wilmott Improved.

Remarks — A pure stock.

PHOEBUS

Originated by Bide.

Introduced by Bide.

Donated by Bide.

Description in detail — Color of standard Lincoln red 88 (1), veined darker; wings geranium red 111 (lighter than 1). Flower large, waved form; standard large, much waved, with broad base; wings large, long and broad, spreading. Flowers three, on slender stems of medium length. Moderate fragrance. Bloom profuse. Plant of medium height and slender growth. Leaflets broad, pointed; tendrils green.

PRINCE OF ORANGE

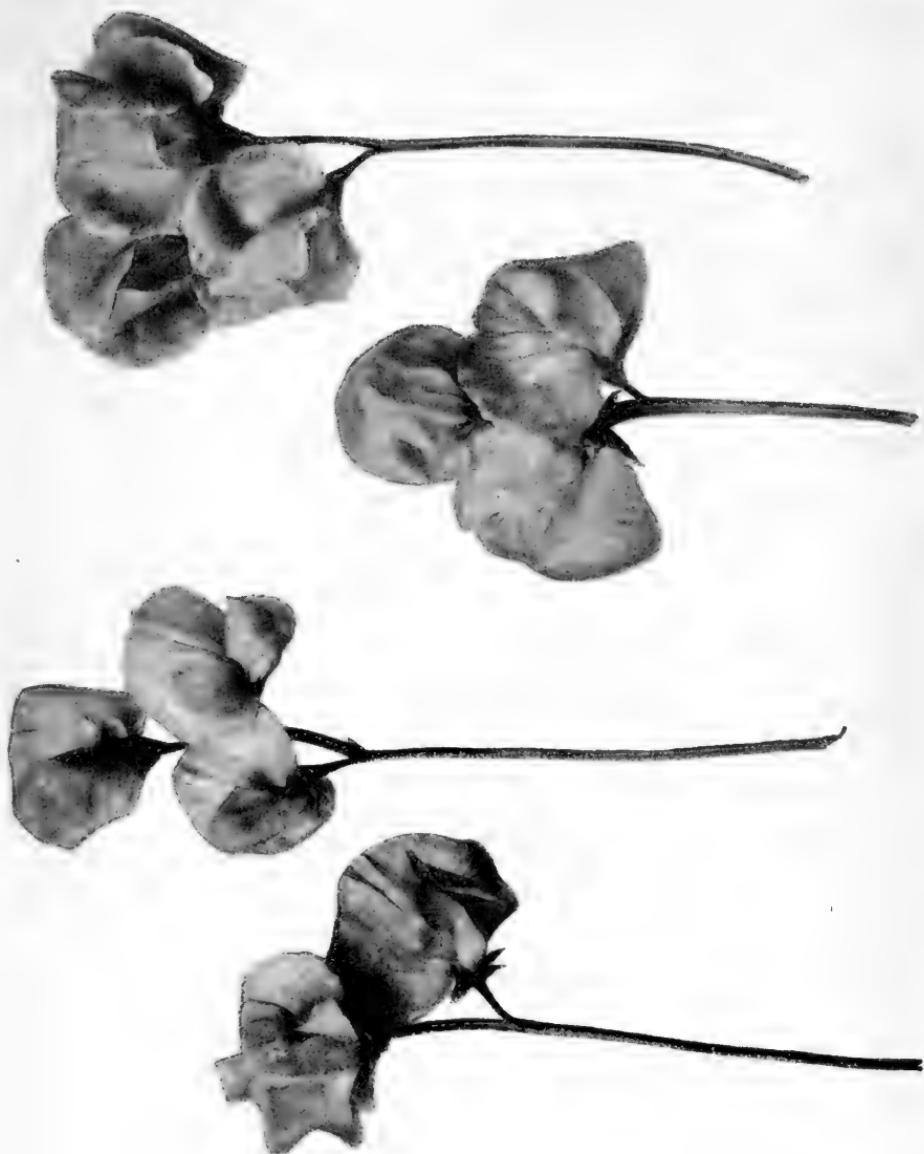
Originated by Miss Hemus.

Introduced by Miss Hemus, 1910.

Donated by Miss Hemus, 1910.

Description in brief — Originator describes this as a large, waved, very vigorous, orange variety.

Remarks — Very unfixed. Was one half Countess Spencer, or Paradise, and one half John Ingman. No orange in it. The later selection has not been tested at this station.



Arthur Unwin

Helen Lewis



Orange-Scarlet**ANDREW AITKEN***Originated by Bolton.**Introduced by Bolton, 1913.**Donated by Boddington, 1913.**Description in brief* — “A soft salmon-colored variety.” — Bolton’s catalogue.*Description in detail* — Color of standard salmon-pink 126 (2-3), flushed with Rose Neyron red at base; wings rosy pink 118 (2-3), flushed with Rose Neyron red. Flower large, waved form; standard large, waved; wings large, long and broad, concealing the keel. Flowers three, equidistant, close, on medium stems. Moderately fragrant. Moderately productive. Burns slightly. Plant of medium height and slender growth. Leaflets broad, round, dark green.*Remarks* — Stock pure, true.**ANGLIAN ORANGE***Originated by King.**Introduced by King, 1911.**Donated by King, 1913.**Description in brief* — A large, waved, salmon-pink variety.*Description in detail* — Color of standard bright rosy scarlet 124 (1), tinged with purple-rose on the edge and at the base; wings purple-rose 150 (1 or lighter). Flower large, waved form; standard large, slightly waved; wings large, concealing the keel. Flowers three, equidistant, close, on medium stems. No fragrance. Bloom profuse. Burns somewhat. Plant of medium height and strong growth. Leaflets broad, round, dark green.*Remarks* — Contained two color rogues.**DAZZLER***Originated by Breadmore.**Introduced by Breadmore, 1910.**Donated by Farquhar.**Description in brief* — “Bright flame color.” — Sweet Pea Annual.*Description in detail* — Color of standard and wings salmon-pink 126 (2-3). Flower large, waved form; standard large, slightly waved; wings short and broad, concealing the keel. Flowers three, on medium stems. No fragrance. Bloom medium. Burns slightly. Plant of tall, slender growth. Leaflets broad, round, dark green.*Comparison* — Similar to Andrew Aitken.*Remarks* — Stock pure, true.**EDNA UNWIN IMPROVED***Originated by Unwin.**Introduced by Unwin, 1910.**Donated by Unwin, 1910.**Description in brief* — A medium-sized, slightly waved variety.*Description in detail* — Color of standard rosy scarlet 124 (4); wings cerise 123 (2-3). Standard medium to large, slightly waved; wings moderately long and broad, partly open. Flowers two to three, on strong stems of moderate length. Fragrance slight. Bloom free. Burns slightly. Plant of tall, stout, healthy growth. Seed dark brown.*Comparison* — Similar to St. George, but slightly superior in form.*Remarks* — A pure stock.

ORANGE KING

Originated by Bide.*Introduced by* Bide, 1911.*Donated by* Bide, 1910.*Description in brief* — This variety is said to be a true orange self.*Comparison* — The orange-colored flowers were similar to Edna Unwin Improved or St. George.*Remarks* — A very unfixed stock. One plant Henry Eckford. Mostly pink-flowered plants.

ORANGE PERFECTION

Originated by Box.*Introduced by* Box, 1912.*Donated by* Box, 1912.*Description in brief* — Standard orange, wings rose.*Description in detail* — Color of standard shrimp pink 75 (1); wings deep rose-pink 120 (1-2). Flower large, waved form; standard large, slightly waved; wings large, long and broad, spreading. Flowers two to three, on slender stems of medium length. No fragrance. Bloom scant. Burns slightly. Plant of medium, very slender growth. Leaflets broad, pointed.*Comparison* — Smaller, of paler color and poorer bloom, and a weaker plant than Thomas Stevenson in the trials at this station in 1912.

RUBY

Originated by —————.*Introduced by* Aldersey, 1910.*Donated by* Aldersey, Marsden Jones.*Description in brief* — "Standard bright orange scarlet; wings deep rose." — Introducer's description.*Description in detail* — Color of standard coral-red 76 (1-2), veined darker; wings carthamus red 88 (1), sometimes veined darker. Flower medium to large, slightly waved form; standard medium large, slightly waved; wings long and broad, spreading. Flowers two to three, on rather weak, short stems. Fragrance very little or none. Burns badly. Is badly injured by wet weather. Plant of moderately tall, slender growth. Leaflets broad, pointed.*Comparison* — Similar to Thomas Stevenson in color, but was the poorest of the orange group.

ST. GEORGE

Originated by —————.*Introduced by* Hurst, 1908.*Donated by* Boddington, Dobbie, 1910.*Description in brief* — A medium-sized garden variety.*Description in detail* — Color of standard bright rosy scarlet 124 (3-4); wings deep rose-pink 120 (2-3). Standard of medium size, some very slightly waved; wings moderately long and broad, concealing the keel. Flowers two to three, generally two, on short stems. Fragrance very slight. Bloom free. Burns badly. Plant of medium height and stout growth. Seed black, irregular in shape.*Comparison* — Wings are not the same color as the standard, neither are they the color of the wings of Orange Spencer or Miss Wilmott Improved.

THOMAS STEVENSON

Originated by Holmes.*Introduced by* Sydenham, 1911.*Donated by* Boddington, Burpee, Dobbie, Sydenham, 1912; Burpee, Dobbie, Sydenham, 1913.*Description in brief* — A rich orange-scarlet.*Description in detail* — Color of standard madder lake 122 (2-3), veined darker; wings carmine-lake 121 (2-3), veined darker. Flower very large, waved form; standard very large, slightly waved; wings large, long and broad, spreading. Flowers on long, strong stems. Moderately fragrant. Moderately productive. Burns slightly. Plant tall, stout. Leaflets broad, pointed; tendrils green.*Comparison* — Plant is of stronger growth, and produces larger flowers on longer stems, than Stirling Stent.*Remarks* — The leading variety in this group.

PICOTEE EDGE (Cream ground)

EVELYN HEMUS

Originated by Miss Hemus.*Introduced by* Miss Hemus, 1908.*Donated by* Miss Hemus, 1910.*Description in brief* — Large, waved, picotee-edged pink on a primrose ground, for garden, market, or exhibition use.*Description in detail* — Color of standard picotee-edged pale rosy pink 129 (1), on a fleshy white 9 (3) ground; wings 9 (2-3). Standard large, Spencer-waved; wings waved, long and broad. Flowers two to four, on long, strong stems. Fragrant. Bloom profuse, continuous. Plant of medium height and stout, healthy growth.*Comparison* — Closely resembles Mrs. C. W. Breadmore.*Remarks* — A pure stock.

HELEN WILLIAMS

Originated by Stark.*Introduced by* Stark, 1913.*Donated by* Stark, 1912.*Description in brief* — A large, waved, picotee variety.*Description in detail* — Color yellowish white 13 (1), edged with purple-rose 150 (1), deeper on back; wings yellowish white 13 (1). Flower very large, waved form; standard very large, much waved; wings large, long and broad. Flowers three to four, wide apart on very long, strong stems. Moderately fragrant. Bloom medium. Plant of strong, vigorous growth. Foliage dark green; color in axils of peduncles and leaflets.*Comparison* — Better than Mrs. Breadmore in 1912. Not tested in 1913.

MRS. C. W. BREADMORE

Originated by Breadmore.*Introduced by* Breadmore, 1908.*Donated by* Boddington, Stark, Dobbie, 1910; Burpee, 1911; Rohnert, 1912.*Description in brief* — Large, waved, picotee-edged pink on a primrose ground.*Description in detail* — Color of standard picotee-edged pale lilac-rose 130 (1), on an amber-white 12 (1) ground; wings 12 (1). Standard large, Spencer-waved; wings

waved, long and broad. Flowers two to three, on long, strong stems. Fragrant. Bloom profuse, continuous. Sunproof. Plant of medium height and stout, healthy growth.

Comparison — Closely resembles Evelyn Hemus.

Remarks — A pure stock.

Picotee Edged (White ground)

CHASTITY

Originated by Bath.

Introduced by Bath, 1912.

Donated by Bath.

Description in brief — Large, waved, pure white, with a blush edge.

Description in detail — Color of standard on opening shows faint primrose, later tinted violet-rose 154 (1); wings similar, but becoming a deeper tint. Flower very large, waved form; standard very large, slightly waved, many doubles; wings large, long and broad, drooping. Substance good. Flowers three, irregularly spaced on long, strong stems. Moderately fragrant. Productive. Plant of very tall, strong growth. Leaflets long, broad; tendrils colored.

DAINTY SPENCER

Originated by —

Introduced by Burpee, 1911.

Donated by Burpee, for advance trial, 1910.

Description in brief — Large, waved, picotee-edged pink on a white ground.

Description in detail — Color of flower rosy white 8 (2) ground, with edge of standard Rose Neyron red 119 (1); edge of wings 119 (2). Standard large, very slightly waved; wings waved, long and broad, concealing the keel. Flowers two to four, on long, strong stems. Fragrant. Bloom medium. Plant of medium height and stout, healthy growth.

Comparison — Not so large as Elsie Herbert, but otherwise similar to it.

DISTINCTION

Originated by Bath.

Introduced by Bath, 1910.

Donated by Bath, 1910.

Description in brief — Large, waved, picotee-edged pink on a white ground.

Comparison — Very similar to Elsie Herbert.

Remarks — Not a fixed stock.

ELSIE HERBERT

Originated by Breadmore.

Introduced by Breadmore, 1908.

Donated by Dobbie, Miss Hemus, Unwin, 1910; Burpee, 1911; Morse, 1912.

Description in brief — Large, waved, picotee-edged pink on a white ground. A garden, market, or exhibition variety.

Description in detail — Color of standard lilac white 7 (2-3), with a picotee edge of purple-rose 150 (1); wings 7 (1), with pale lilac-rose 130 (4) edge. Standard large, Spencer-waved; wings large, partly open, waved. Flowers two to four, on long, strong stems. Fragrant. Bloom profuse, continuous. Plant of tall, stout, healthy growth. Seed black.

Remarks — Pure stocks. A distinct variety. The standard variety of this color.

ERIC HARVEY*Originated by* Unwin.*Introduced by* Unwin, 1911.*Donated by* Unwin, for advance trial, 1910.*Description in brief* — A large, beautifully waved flower, useful for decoration and exhibition.*Description in detail* — Color of bud buff; opening flower shows trace of buff; standard suffused with mauve-rose, deepest at the edges, and deeper still on the back; wings flushed lilacy white 7 (4). Standard large, waved; wings large, varying from hooded to waved, concealing the keel. Flowers three, on long, strong stems. Plant grows to medium height, strong and healthy.*Comparison* — Distinct from Martha Washington.*Remarks* — Contained John Ingman rogue.**MARTHA WASHINGTON***Originated by* Routzahn.*Introduced by* Henderson, 1910.*Donated by* Henderson, 1910, 1911.*Description in brief* — A very large, waved variety, with a heavy picotee edge on a pure white ground.*Description in detail* — Color of standard white from base to center, shading to a pink edge; as the flower ages the suffusion increases; wings picotee-edged pink. Standard large, Spencer-waved; wings long and broad, waved.*Comparison* — Distinct from Elsie Herbert.*Remarks* — The 1910 stock produced one plant of Othello, but the variety is usually reported true. The 1911 stock was true.**PICOTEE***Originated by* —.*Introduced by* Watkins & Simpson, 1910.*Donated by* Watkins & Simpson, 1910; Boddington, 1911; Rohnert, 1912.*Description in brief* — A waved, picotee-edged carmine variety.*Description in detail* — Color of standard faintest blush, edged with purple-rose 150 (1-3); wings edged with pale pink. Flower very large, waved form; standard very large, much waved; wings long and broad, spreading, often drooping. Very fragrant. Bloom profuse. Plant of tall, strong growth. Leaflets broad, pointed; tendrils green.*Comparison* — Similar to Elsie Herbert and Distinction.**WINIFRED DEAL***Originated by* Deal.*Introduced by* Deal, 1910.*Donated by* Deal, 1910, 1912.*Description in brief* — Large, waved, picotee-edged pink on a white ground.*Comparison* — Similar to Elsie Herbert.*Remarks* — Not a true stock. The 1912 stock was true.**Pink****AUDRY CRIER***Originated by* Breadmore.*Introduced by* Breadmore, 1908.*Donated by* Rawson, 1910.*Description in brief* — Described as salmon-pink.

Remarks — One of the varieties that it has been impossible to fix. This stock was almost entirely Helen Lewis, with one plant Prince Olaf, two Menie Christie, and several White Spencer.

BEATRICE SPENCER

Originated by Morse.

Introduced by Morse, 1909.

Donated by Boddington, Morse, 1910; Burpee, 1911.

Description in brief — Catalogued as white, tinted soft pink and buff; wings have bright pink blotch at base.

Description in detail — Color of standard mauve-rose 153 (2); wings violet-rose 154 (1). Flower large; standard large, Spencer-waved; wings long and broad, waved. Flowers three, on strong stems of fair length. Bloom profuse, continuous. Plant of strong, healthy growth. Tendrils colored. Seed large, black.

BLUSH ROSE SPENCER

Originated by —

Introduced by Henderson, 1910.

Donated by Henderson, 1910.

Description in brief — A large, rose-pink, waved variety.

Description in detail — Color of standard purple-rose 150 (1-2); wings mauve-rose 153 (1). Standard and wings large and waved.

Remarks — A badly mixed lot of plants containing mostly carmine-rose flowers, with Countess Spencer and White Spencer.

COUNTESS SPENCER

Originated by Cole.

Introduced by Sydenham, 1904.

Donated by Boddington, Cole, Dobbie, Henderson, Morse, Rawson, 1910.

Description in brief — A large, rose-pink, waved variety, suitable for garden, market, and exhibition use.

Description in detail — Color of standard mauve-rose 153 (2-3); wings violet-rose 154 (1-2); color deeper in cool weather; color often deeper at the edges. Standard very large, waved; wings waved, long and broad. Flowers three to four, on long, very strong stems. Fragrant. Bloom profuse, continuous. Plant of strong, vigorous growth. Seed black.

Remarks — One stock pure. The forerunner of the waved, or Spencer, type.

ENCHANTRESS

Originated by Stark.

Introduced by Stark, 1906.

Donated by Boddington, Stark, 1910.

Synonyms — Identical with Countess Spencer.

Remarks — Neither stock pure.

FLORENCE SPENCER

Originated by Cole.

Introduced by Cole, 1907.

Donated by Rawson, 1910.

Description in detail — Color of standard violet-rose 154 (2-3); wings 154 (1-2). Flower of medium size, waved; standard of medium size, slightly waved; wings long and narrow. Flowers two to three, on long, slender stems. Productive. Plant of tall, strong growth. Leaflets broad, dark green.

Comparison — A trifle lighter in color than Countess Spencer.

Remarks — Not pure; contains Helen Lewis and E. J. Castle.

GLADYS UNWIN*Originated by* Unwin.*Introduced by* Unwin, and Watkins & Simpson, 1905.*Donated by* Boddington, Rawson, and Watkins & Simpson, 1910.*Description in brief* — A rose-pink variety, of Unwin form; for garden or market use.*Description in detail* — Color of standard mauve-rose 153 (1); wings violet-rose 154 (1).

Flower large; standard moderately large, slightly waved; wings long and broad, hooded. Flowers two to three, on long stems. Productive. Produces a good crop of seed.

Comparison — Paler than Countess Spencer in cool weather. Standard more nearly upright and wings more incurved than those of Countess Spencer.*Remarks* — Two stocks pure.**HERCULES***Originated by* Stark.*Introduced by* Stark, 1911.*Donated by* Stark, 1912; Boddington, 1913.*Description in brief* — A very large, waved, pink self.*Description in detail* — Color same as Countess Spencer. Flower very large, slightly waved form. Flowers three to four, on long, strong stems. Tendrils colored.*Comparison* — A larger, but less waved, Countess Spencer. Better for exhibition than Countess Spencer.**LADY SARAH SPENCER***Originated by* Cole.*Introduced by* Cole, 1910.*Donated by* Cole, 1910.*Description in brief* — Originator describes as pink suffused with salmon.*Synonyms* — Same as Countess Spencer in all respects.*Remarks* — Stock pure but not true.**LOVELY SPENCER***Originated by* Morse.*Introduced by* Morse, 1909.*Donated by* Morse, 1910.*Description in brief* — Large, waved form of Lovely.*Description in detail* — Color of standard pale lilac-rose 130 (2); wings 130 (3). Flower very large; standard large, Spencer-waved; wings large, long and very broad, waved, spreading. Flowers two to four, on long, strong stems. Bloom profuse, continuous. Plant of strong, healthy growth.*Comparison* — Lighter in color than Countess Spencer.*Remarks* — A distinct variety. A pure stock.**MARION***Originated by* —————.*Introduced by* Dobbie, 1911.*Donated by* Dobbie, 1912.*Description in detail* — Color of standard and wings violet-rose 154 (1-2). Flower large, waved form; standard large, broad, slightly waved; wings long and broad. Flowers three, equidistant on medium stems. Very fragrant. Moderately productive. Plant of medium height and slender, healthy growth. Leaflets broad, pointed; tendrils colored.*Remarks* — Has been described as lilac-rose.

MRS. ALFRED WATKINS*Originated by* Unwin.*Introduced by* Unwin, and Watkins & Simpson, 1907.*Donated by* Boddington, Rawson, Unwin, and Watkins & Simpson, 1910.*Description in brief* — Pale pink with lighter edges, Unwin type. A garden or market variety.*Description in detail* — Color lilac-rose 130 (1-2), fading to almost white edges. Flower large, Unwin type; standard large, slightly waved; wings long and broad. Flowers three, on long stems. Productive. Burns more or less in the sun.*Comparison* — Does not resemble Peach Blossom very closely.*Remarks* — Three stocks pure. One stock contained one Captain of the Blues Spencer.**PARADISE***Originated by* Miss Hemus.*Introduced by* Miss Hemus, Sydenham, 1907.*Donated by* Boddington, Miss Hemus, Morse, Rawson, 1910.*Description in brief* — A large, pink, waved variety.*Synonyms* — Same as Countess Spencer.*Remarks* — Miss Hemus' stock pure.**ZARA***Originated by* Biffen.*Introduced by* Miss Hemus, 1908.*Donated by* Miss Hemus, 1910.*Description in brief* — A garden variety.*Description in detail* — Color of standard hydrangea pink 132 (2-3); wings 132 (1-2). Flower large, Unwin form; standard large, slightly waved; wings medium, partly open. Substance good. Flowers two to four, on moderately long, strong stems. Fragrant. Bloom free. Plant healthy and of medium height.*Comparison* — More buff than Lovely Spencer.*Synonyms* — We should call it Honorable F. Bouverie Spencer.*Remarks* — A pure stock.**Pink** (Pale pink group)**CHARM***Originated by* —————.*Introduced by* Burpee, 1913.*Donated by* Burpee, 1913.*Description in detail* — Color of standard lilac-rose 178 (1 or paler). Flower large, waved form; standard large, slightly waved; wings short and broad, concealing the keel. Flowers three to four, irregularly placed on strong stems of medium length. Moderately fragrant. Moderately productive. Sunproof. Plant of medium height and slender growth. Leaflets dark green, broad, pointed; tendrils green.**ELFRIDA PEARSON***Originated by* J. R. Pearson & Sons.*Introduced by* Pearson, 1911.*Donated by* Dobbie, 1912; Burpee, 1913.*Description in brief* — A large, waved, blush-pink variety.*Description in detail* — Color lilac-rose 152 (1 to much lighter); flower opens with considerable primrose in the standard, which is blush-pink; flower changes, losing its

primrose tint, becoming a blush-pink on white. Flower large, waved form; standard large, waved, often double, sometimes triple. Plant of tall, strong, vigorous growth. Foliage dark green, healthy.

Comparison — Not so large as Princess Victoria, but more salmon. A deeper pink than Lady Evelyn Eyre.

Rose

EDNA TURNER

Originated by Dipnall.

Introduced by Dipnall, 1911.

Donated by Dipnall.

Description in detail — Color of standard and wings purple-rose 150 (1). Flower large, waved form; standard large, slightly waved; wings long and broad, spreading. Moderately fragrant. Moderately productive. Burns slightly. Stems medium to long, slender. Plant of tall, strong growth. Leaflets broad.

Remarks — Two color rogues: (1) dark violet, (2) carmine-lake and orange.

KING MARJORIE

Donated by Dobbie, 1912.

Description in detail — Color of standard lilac-rose 152 (3-4), shading into Tyrian rose 155 (1-2); wings Tyrian rose 155 (1-2). Flower very large, waved form; standard very large, slightly waved; wings long and broad. Good substance. Flowers two to three, equidistant on long, strong stems. Fragrance none. Bloom scant. Sunproof. Plant of very tall, stout growth. Leaflets broad, pointed.

Comparison — An improved Marjorie Willis.

MARIE CORELLI

Originated by _____.

Introduced by Burpee, Morse, 1910.

Donated by Burpee, Morse.

Description in brief — A waved "rose-carmine" variety.

Description in detail — Color of standard purple-rose 150 (3-4); wings purple-rose 150 (1-2). (See description of Marjorie Willis.)

Remarks — A pure stock.

MARJORIE WILLIS

Originated by Lumley.

Introduced by Lumley, Breadmore, Wright, 1908.

Donated by Dobbie, 1910; Rohnert, 1912; Burpee, 1913.

Description in brief — A large, waved, rose and carmine variety, for garden and exhibition use.

Description in detail — Color of standard carmine-purple 150 (3); wings Tyrian rose 150 (1-2). Standard large, Spencer-waved; wings long and broad, concealing the keel. Flowers two to three, on long, strong stems. Very fragrant. Bloom profuse. Sunproof. Plant of medium height and stout, healthy growth. Tendrils colored; color in axils of leaves and leaflets.

Comparison — Very similar to Marie Corelli.

Remarks — A pure stock.

ROSABELLE

*Originated by Malcolm.**Introduced by Malcolm, 1912.**Donated by King, 1913.**Description in brief* — A large, waved, rose variety.*Description in detail* — Color of standard carmine-purple 156 (1), tinged with violet at the base; wings pure mauve 181 (1-2). Flower large, waved form; standard large, waved; wings short and broad, concealing the keel. Flowers three, on strong stems. Moderately fragrant. Bloom profuse. Burns slightly. Plant of tall, strong, vigorous growth. Leaflets broad, round, dark green.*Comparison* — Superior to Marjorie Willis or Marie Corelli.

ROSE DIAMOND

*Originated by Aldersey.**Introduced by Aldersey, 1912.**Donated by Aldersey, 1912.**Description in brief* — A large, waved, rose variety.*Description in detail* — Color of standard carmine-lake 121 (2-3); wings carmine-lake 121 (1-2). Flower large, waved form; standard large, slightly waved; wings long and broad, spreading. Flowers three, irregularly placed on short, slender stems. Slightly fragrant. Moderately productive. Plant of medium height and slender growth. Leaflets narrow, pointed; tendrils colored.*Comparison* — Lighter, purer rose shades than George Herbert.

Salmon Shades

BARBARA

*Originated by Holmes.**Introduced by Sydenham, Holmes, 1912.**Donated by Sydenham, 1912.**Description in brief* — A salmon-orange self.*Description in detail* — Color of standard shrimp pink 75 (2-3); wings madder lake 122 (1-2). Flower very large, waved form; standard very large, slightly waved; wings long and broad, spreading. Flowers two to three, on strong stems of medium length. Little, if any, fragrance. Moderately productive. Burns badly. Is badly injured by wet weather. Plant of medium height, strong. Leaflets broad, pointed; tendrils often colored.*Comparison* — Flowers larger, bloom better, and stems stronger than Stirling Stent, but a lighter orange. A lighter orange than Thomas Stevenson.

EARL SPENCER

*Originated by Cole.**Introduced by Dobbie, Cole, 1910.**Donated by Boddington, 1911; Burpee, 1913.**Description in brief* — A large, waved, orange variety.*Description in detail* — Color of standard and wings salmon-pink 126 (1-2). Flower large, waved form; standard large, slightly waved; wings long and broad, concealing the keel. Flowers two to three, equidistant, close, on short to medium stems of medium strength. Not fragrant. Bloom profuse. Burns badly. Plant of medium height and strong growth. Leaflets broad, round, dark green.

INSPECTOR*Originated by Dobbie.**Introduced by Dobbie, 1913.**Donated by Dobbie, 1913.**Description in brief* — A duplex, or double, form of Stirling Stent.*Description in detail* — (See Stirling Stent.)*Comparison* — Is a strain of Stirling Stent producing a good percentage of doubles. If anything, it is of more vigorous growth than Stirling Stent.*Remarks* — A very good duplex variety.**MELBA***Originated by Malcolm.**Introduced by Dobbie, 1912.**Donated by Dobbie, 1912; Burpee, Dobbie, 1913.**Description in brief* — An orange-salmon flower.*Description in detail* — Color of standard salmon-carmine 125 (3-4), deepest on back; wings salmon-carmine 125 (1-2). Flower large, waved form; standard large, slightly waved, sometimes double; wings long and broad. Flowers two to three, on medium stems. Bloom profuse. Burns badly. Is badly injured by wet weather. Plant of medium height and strong growth. Leaflets broad, pointed; tendrils green.*Comparison* — Is smaller and lighter, and has much more orange, than Helen Lewis. Burned less in 1913 trials than Earl Spencer.**STIRLING STENT***Originated by James Agate.**Introduced by Agate, 1911.**Donated by Boddington, 1911; Burpee, 1912, 1913.**Description in brief* — A bright salmon-orange variety.*Description in detail* — Color of standard madder lake 122 (2-4), back 122 (4); wings madder lake 122 (1-2), back 122 (3-4). Flower large, waved form; standard large, slightly waved; wings short and broad, concealing the keel. Flowers two to three, on medium stems. Not fragrant. Bloom profuse. Burns slightly. Plant of medium height and stout growth. Leaflets broad, pointed, dark green.*Comparison* — A deeper color, with much less burning, than Earl Spencer.**TORTOISE SHELL***Originated by Aldersey.**Introduced by Aldersey, 1910.**Donated by Aldersey, 1912.**Description in brief* — A shrimp pink variety.*Description in detail* — Color of standard and wings shrimp pink 75 (2-3), veined darker. Flower of medium size, waved form; standard of medium size, slightly waved; wings long and broad, spreading. Flowers one to three, on medium stems. No fragrance. Bloom rather scant. Burns badly. Plant of medium height and slender growth.*Comparison* — Color not so bright as Barbara.*Remarks* — A pleasing, distinct color among new types.**Scarlet****BOLTON'S SCARLET***Originated by Bolton.**Introduced by Bolton, 1913.**Donated by Boddington, 1913.**Description in brief* — A large, waved, crimson variety.

Description in detail — Color of standard crimson-red 114 (1-2); wings amaranth-red 168 (1-2). Flower large, waved form; standard large, slightly waved; wings long and broad, concealing the keel. Flowers three, on medium stems. Moderate fragrance. Bloom medium. Burns slightly. Plant of tall, slender growth. Leaflets broad, round, dark green.

Remarks — Stock pure, true.

DOBBIE'S SCARLET

Originated by Dobbie.

Introduced by Dobbie, 1913.

Donated by Dobbie, 1912, 1913.

Description in detail — Color of standard varies from crimson-red 114 (1) to carmine-red 116 (1); wings crimson-red 114 (1). Flower large, waved form; standard large, much waved, many double; wings long and broad, spreading. Flowers two to three, on long, strong stems. Fragrance moderate. Moderately productive. Sunproof. Plant of tall, strong growth. Leaflets broad.

Comparison — Similar to George Stark.

Remarks — In 1913 the best of the scarlets.

DORIS BURT

Originated by Unwin.

Introduced by Unwin, 1910.

Donated by Unwin, 1910.

Description in brief — A large, scarlet, waved, garden variety.

Description in detail — Color of standard carmine-purple 156 (3). Wings long and broad, concealing the keel. Flowers three, on long stems. Very slight fragrance. Burns badly. Plant slender, of medium height. The foliage has a blue cast, the young shoots a purplish cast.

Remarks — A pure stock.

GEORGE STARK

Originated by Stark.

Introduced by Stark, 1910.

Donated by Stark, 1910.

Description in brief — Medium to large, bright red.

Description in detail — Color of standard carmine-purple 156 (3-4); wings 156 (1). Standard medium to large, upright, open, flat or very slightly waved; wings long and broad, spreading. Flowers three, on long, strong stems. Mild fragrance. Bloom profuse. Plant of moderately strong growth. Calyx colored.

Remarks — Wings sometimes larger than standard. A pure stock as to color.

GEORGE STARK IMPROVED

Originated by Stark.

Introduced by Stark, 1910.

Donated by Stark, 1910; Boddington, 1912.

Description in brief — A large, waved, scarlet variety suitable for all purposes.

Description in detail — Color of standard 156 (3-4); wings 156 (1). Standard large to very large. Spencer-waved, many double; wings long and broad, spreading. Flowers three, on long, strong stems. Very slight fragrance, if any. Bloom profuse. Burns in the sun. Growth strong and vigorous. Calyx colored.

Comparison — Color of Queen Alexandra.

Remarks — There is a double-flowered strain offered by Stark.

GEORGE WASHINGTON*Originated by* _____.*Introduced by* Henderson, 1910.*Donated by* Henderson.*Description in brief* — "A very large crimson scarlet." — Henderson's catalogue.*Remarks* — This stock unfortunately produced two shades of red in equal proportion. Withdrawn after first season.**MISS E. F. DRAYSON***Originated by* Unwin.*Introduced by* Unwin, 1908.*Donated by* Unwin, 1910.*Description in brief* — A medium-sized, scarlet, Unwin variety.*Description in detail* — Color of standard carmine-purple 156 (3-4); wings, front 156 (1), back 156 (2). Standard of medium size, Unwin type; wings short and broad. Flowers two to three, on strong stems of moderate length. Burns slightly. Plant of short, slender growth. Seed round, black.*Comparison* — Color between Coccinea and Queen Alexandra, but resembles the latter more closely.*Remarks* — One maroon plant appeared in the stock.**PREMIER***Originated by* Stark.*Introduced by* Stark, 1911.*Donated by* Stark, 1912.*Description in detail* — Color of standard crimson-red 114 (1-3), back a deeper color; wings crimson-red 114 (1). Flower very large, waved form; standard very large, waved slightly; wings short and broad. Flowers irregular on long, strong stems. Not fragrant. Moderately productive. Sunproof. Plant of medium height and strong growth. Leaflets broad.*Comparison* — A similar flower to that of George Stark, but the plant is stronger.**RED PARADISE***Originated by* Miss Hemus.*Introduced by* Miss Hemus, 1910.*Donated by* Miss Hemus, 1910.*Description in brief* — A medium-sized, waved, bright red variety.*Description in detail* — Color of standard carmine-purple 156 (3-4); wings 156 (1-2). Standard of medium size, slightly waved; wings long and narrow. Flowers on strong stems of moderate length. Fragrance very slight. Sunproof. Plant not healthy. Growth stunted apparently from some physiological affection. Foliage blue-green.*Remarks* — Stock mixed, two shades of red. Owing to the disease mentioned above, the variety did not show up so well as it probably should have done.**RED STAR***Originated by* Malcolm.*Introduced by* Dobbie, 1912.*Donated by* Dobbie, 1912, 1913.*Description in detail* — Color of standard carmine-purple 156 (3-4); wings carmine-purple 156 (2-3). Flower large, open form; standard large, flat; wings long and broad. Moderately fragrant. Bloom scant. Burns slightly. Plant of tall, slender growth. Leaflets broad.

Comparison — Slightly better than George Stark.

Remarks — At this station this variety is the best of the Queen Alexandra color.

ROYAL SCARLET

Originated by Aldersey.

Introduced by Aldersey, 1911.

Donated by Aldersey, 1912 (Aldersey's No. 139).

Description in brief — A large, waved, scarlet self.

Description in detail — Color geranium red 111 (1); wings the same color. Flowers large, waved form; standard large, slightly waved; wings long and broad, spreading. Flowers on short stems. No fragrance. Bloom scant. Burns slightly. Plant of medium height and slender growth. Leaflets broad, pointed.

Comparison — A duller and paler red than King Edward VII.

SCARLET EMPEROR

Originated by Holmes.

Introduced by Holmes, Sydenham, 1912.

Donated by Sydenham, 1912, 1913.

Description in brief — A large, waved, crimson-scarlet self.

Description in detail — Color of standard and wings crimson-red 114 (1-2); wings lighter inside. Flower large, waved form; standard large, waved; wings short and broad, wide-spreading. Flowers two to three, equidistant on strong, medium to long stems. Moderately fragrant. Bloom profuse. Sunproof. Plant of tall, strong growth. Leaflets broad, pointed.

Comparison — Is a better, clearer scarlet, blooms better, and burns less, than George Stark. Is a better scarlet and blooms better than Red Star.

Remarks — The best scarlet in 1912.

SCARLET EMPRESS

Originated by Holmes.

Introduced by Holmes, Sydenham, 1912.

Donated by Sydenham, 1912, 1913.

Description in brief — A large, waved, scarlet variety.

Description in detail — Color of standard crimson-red 114 (1-2); wings the same color. Flower large, waved form; standard large, waved; wings short and broad, spreading. Flowers three, equidistant, close, on medium to long, strong stems. Moderately fragrant. Bloom profuse. Sunproof. Plant of medium height and stout growth.

Remarks — A good, bright, clear scarlet.

SCARLET MONARCH

Originated by Deal.

Introduced by Deal, 1911.

Donated by Deal.

Description in brief — A crimson-scarlet self.

Description in detail — Color of standard currant red 115 (2-4); wings currant red 115 (1), veined darker. Flower large, waved form; standard large, waved slightly, with round, broad base; wings long and broad, spreading. Flowers two to three, on short stems. Scarcely any fragrance. Bloom moderate. Burns badly. Plant of tall, slender growth.

Remarks — Stock pure and true to type.

VERMILION BRILLIANT*Originated by* Burpee.*Introduced by* Burpee, 1912.*Donated by* Burpee, Boddington, 1912.

Description in detail — Color of standard crimson-red 114 (1-3); wings crimson-red 114 (1 or lighter). Flower large, waved form; standard large, waved slightly; wings short and broad. Flowers two to three, irregularly placed on long, strong stems. Moderately fragrant. Moderately productive. Plant of tall, strong growth. Leaflets broad, pointed.

Striped and Flaked (Chocolate on gray ground)**SENATOR SPENCER***Originated by* _____.*Introduced by* Burpee, 1910.*Donated by* Burpee, Morse, 1910; Burpee, 1911, 1912, 1913.

Description in brief — A large garden or exhibition variety, with chocolate-colored stripes on a white ground.

Description in detail — Color purple-brown 166 (1-2) stripes on a purplish-tinted white 6 (2) ground. Standard large, round, Spencer-waved; wings long and broad, waved. Flowers two to four, on long, strong stems. Fragrant. Bloom profuse, continuous. Sunproof. Growth medium, stout, healthy. Seed very large, black.

Remarks — In 1910 the introducer's stock was fixed. The other stock contained Aurora. Later stocks were correct.

Striped and Flaked (Orange-scarlet stripes)**AURORA SPENCER***Originated by* _____.*Introduced by* Burpee, Morse, 1909.*Donated by* Burpee, Morse, 1910; Burpee, 1911, 1912, 1913.

Description in brief — A large, waved, salmon-pink-striped variety, for garden, market, or exhibition use.

Description in detail — Color of stripes on standard salmon-pink 126 (4), on a creamy white ground; wings deep cerise 123 (1-3). Standard large to very large, Spencer-waved; wings large, waved, concealing the keel. Flowers two to three, on strong stems of medium length. Fragrant. Bloom profuse, continuous. Sunproof. Plant of strong, healthy growth.

Remarks — The standard variety of this color.

MAGNIFICENT*Originated by* Miller.*Introduced by* Miller, 1910.*Donated by* Miller, 1910.

Description in brief — A large, waved, salmon-pink-striped, garden variety.

Description in detail — Creamy white 10 (1) ground, with salmon-pink 126 (4) stripes on standard and deep cerise 123 (1-3) on wings. Standard large, waved; wings large to very large, waved, standing out at right angles to the standard, concealing the keel. Flowers two to three, on stems of moderate length. Fragrance moderate. Bloom profuse. Blackens in bright sunshine. Plant strong, vigorous, healthy.

Comparison — Same color as Aurora Spencer, and not affected by the sun.

Remarks — A fixed stock.

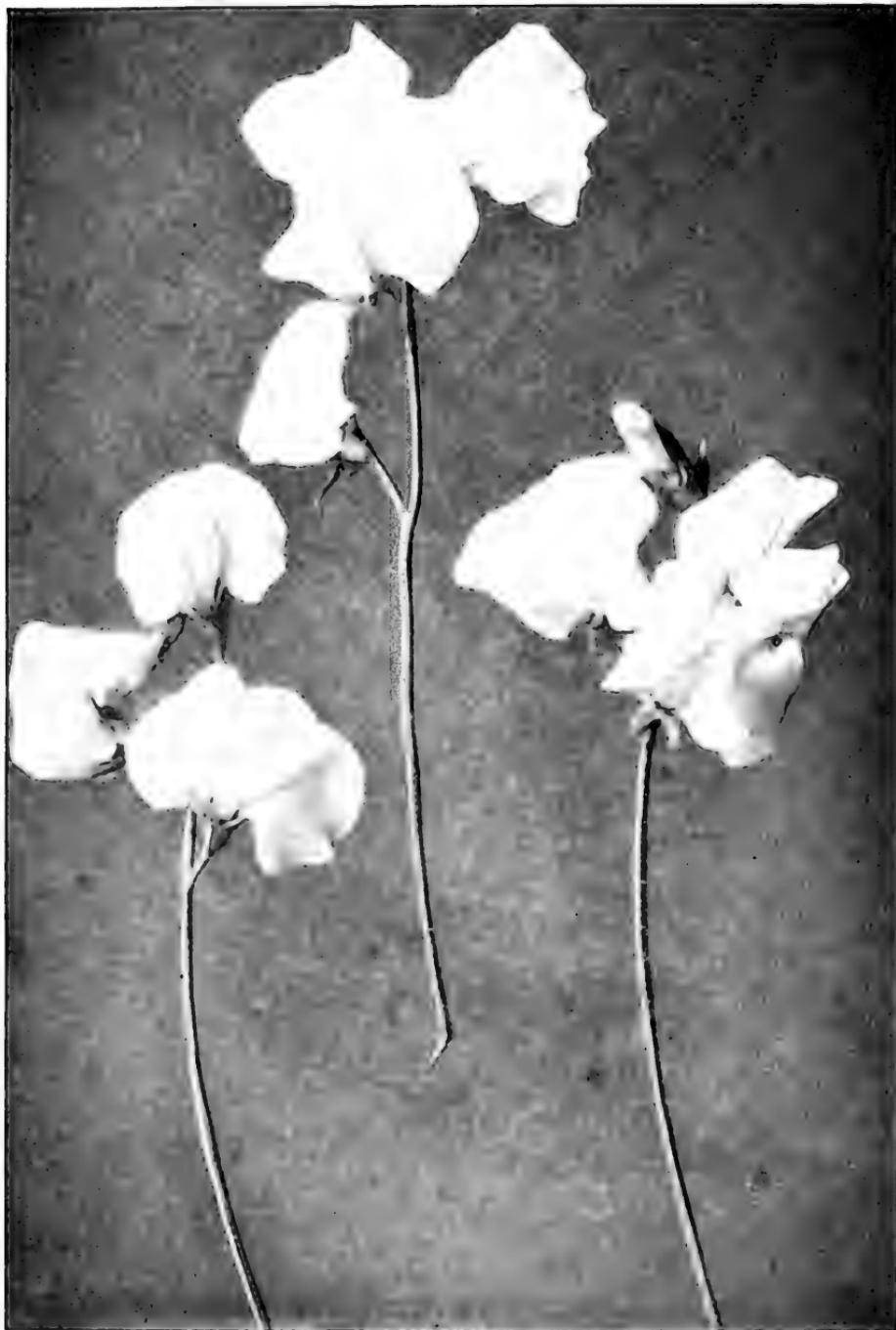
MRS. W. J. UNWIN*Originated by* Unwin.*Introduced by* Unwin, 1911.*Donated by* Unwin, for advance trial.*Description in brief* — A large flower, striped with bright rosy scarlet; for garden, market, or exhibition use.*Description in detail* — Color of stripes on standard bright rosy scarlet 124 (4); on wings almost carmine-lake 121 (1), but more salmony. Standard large, Spencer-waved; wings large, waved, partly open. Flowers three, on long, strong stems.

Fragrance slight. Bloom profuse, continuous. Plant of strong, healthy growth.

Comparison — Color deeper and brighter than Aurora.*Remarks* — A fixed stock. This variety is not synonymous with Aurora, as is sometimes reported; repeated trials indicate that it is distinct.**STARK'S ELEGANCE***Originated by* Stark.*Introduced by* Stark, 1909.*Donated by* Rawson, 1910.*Description in brief* — A medium-sized flower, striped with rosy scarlet; a garden variety.*Description in detail* — Color of stripes on standard bright rosy scarlet 124 (2-3); on wings 124 (1-2). Standard of medium size, upright; wings hooded, upright, long and narrow, concealing the keel. Flowers two to three, on short stems. Slight fragrance. Bloom free. Burns slightly. Plant of medium height and slender growth.*Comparison* — Inferior to Aurora Spencer.*Remarks* — Contained one plant of Salopian. Has no value.**Striped and Flaked** (Pink on primrose ground)**ETHEL ROOSEVELT***Originated by* —.*Introduced by* Burpee, 1911.*Donated by* Burpee, for advance trial, 1910, under name Lottie Hutchins Spencer.*Description in brief* — Large, waved, primrose striped with light pink; a garden or exhibition variety.*Description in detail* — Color pale lilac-rose 130 (4) stripes on a yellowish white 13 (2-3) ground. Standard large, waved; wings large, long and broad, partly open. Flowers two to three, on medium stems. Slightly fragrant. Bloom profuse. Sun-proof. Plant of medium height and slender, healthy growth.*Remarks* — A fixed stock. Sent out as Ethel Roosevelt in 1911.**MRS. H. D. TIGWELL***Originated by* Unwin.*Introduced by* Unwin, 1911.*Donated by* Unwin, for advance trial, 1910.*Description in brief* — A large, waved flower, pink-striped on a creamy white ground.*Description in detail* — Color pale lilac-rose 130 (4) stripes on a creamy white 10 (4) ground. Standard large, slightly waved; wings large, drooping, concealing the keel. Poor substance. Some flowers do not open. Flowers two to three, on moderately long, strong stems. Mild fragrance. Bloom fair. Plant of tall, vigorous growth. Color in axils of leaves.*Comparison* — Similar in color to Ethel Roosevelt, but of poor substance.*Remarks* — A pure stock.



Senator Spencer



White Sweet r

ZENA

Originated by Miss Hemus.*Introduced by* Miss Hemus, 1910.*Donated by* Miss Hemus, 1910.*Description in brief* — A large garden variety, with red flakes on a creamy white ground.*Description in detail* — Color pale lilac-rose 130 (4) on a yellowish white 13 (2-3) ground.

Standard large, very slightly waved; wings large, partly open. Flowers three, on moderately long, strong stems. Bloom profuse. Plant of medium height and slender, healthy growth.

Comparison — Similar in color to Ethel Roosevelt.*Remarks* — Contains a large number of mauve-striped flowers.

Striped and Flaked (Purple and blue)

APRIL

Originated by Dipnall.*Introduced by* Dipnall, 1913.*Donated by* Dipnall, 1912, 1913.*Description in brief* — A large, waved, blue-striped variety.

Description in detail — Color of standard and wings light bluish violet 202 (1-4) flaked and striped on a white ground. Flower large, waved form; standard large, slightly waved; wings large, long and narrow, spreading. Substance good. Flowers two to three, on medium stems. Moderately fragrant. Bloom not profuse. Plant of tall, stout, healthy growth. Leaflets broad, round, dark green.

Comparison — Quite distinct from Bertie Usher.*Remarks* — Stock pure, true.

BERTIE USHER

Originated by Usher.*Introduced by* Usher, 1912.*Donated by* Sutton, 1912, 1913.*Description in brief* — A large, waved flower, striped with violet-purple.

Description in detail — The standard and wings are striped and flaked with violet-purple 192 (1) on a white ground. Flower large, waved form; standard large, slightly waved; wings short and broad. Flowers three, equidistant on long, strong stems. Moderate fragrance. Moderately productive. Sunproof. Plant of very tall, stout growth. Leaflets broad, pointed; tendrils green.

Comparison — Similar in color to Loyalty, but has smaller flowers and is a less vigorous plant.

BLUE FLAKE

Originated by Unwin.*Introduced by* Unwin, 1910.*Donated by* Unwin.*Description in brief* — Light blue flake on white, Unwin form; a large garden variety.

Description in detail — Flower opens with considerable mauve in the color, but changes to Parma violet 200 (1-2) stripes on the standard and 200 (2-3) on the wings, with a lilacy white 7 (2) ground. Standard medium to large, Unwin form; wings large, hooded, concealing the keel. Flowers two to three, on medium stems. Fragrant. Bloom profuse, continuous. Plant of tall, strong, healthy growth.

Comparison — Distinct from Paradise Blue Flake.*Remarks* — A pure stock.

BLUE FLAKE SPENCER

Originated by Box.*Introduced by* Box, 1912.*Donated by* Box, 1912.*Description in brief* — A large, blue-flaked variety.*Description in detail* — Color of standard and wings violet-purple 192 (1-4). Flower large, waved form; standard large, much waved; wings long and broad, spreading. Substance good. Flowers three, on long, strong stems. Moderately fragrant. Bloom not profuse. Plant tall, strong. Leaflets broad, round; tendrils green.

GEORGE CURZON

Originated by Aldersey.*Introduced by* Aldersey, 1912.*Donated by* Aldersey, 1912.*Description in brief* — Dark blue flake.*Description in detail* — Standard and wings have bright bluish flakes on a white or pale lavender ground. Flower large, waved form; standard large, slightly waved; wings long and broad, spreading. Flowers three, equidistant on medium stems. No fragrance. Bloom moderate. Sunproof. Plant of tall, strong growth. Leaflets broad, pointed; tendrils green.*Comparison* — Not equal to Loyalty.

LOYALTY

Originated by Stark.*Introduced by* Stark, 1912.*Donated by* Stark, 1912.*Description in brief* — A purple-violet flake on a white ground.*Description in detail* — The standard and wings are striped purple-violet 192 (1) on a white ground. Flower very large, waved form; standard very large, much waved; wings short, broad. Substance good. Flowers three, on medium stems. Moderate fragrance. Bloom profuse. Plant of very tall, stout growth. Leaflets broad, pointed.*Comparison* — Like Senator, except striped with blue. Better than Blue Flake Spencer.*Remarks* — The finest blue stripe. Stock pure, true.

PARADISE BLUE FLAKE

Originated by Miss Hemus.*Introduced by* Miss Hemus, 1910.*Donated by* Miss Hemus, 1910.*Description in brief* — A large flower, having clear blue stripes on a white ground.*Description in detail* — A purplish-tinted white 6 (3-4) ground, with Parma violet 200 (3-4) stripes on standard and ageratum blue 201 (1-2) on wings. Standard large, Spencer-waved; wings hooded, long and broad, concealing the keel. Flowers three, on long stems of moderate strength. Fragrant. Bloom profuse, continuous. Plant of tall, very vigorous growth.*Comparison* — Opens with less mauve, is less striped, and shows more white ground than Blue Flake.*Remarks* — A fixed stock.

Striped and Flaked (Red on white ground)**AMERICA SPENCER***Originated by* _____.*Introduced by* Burpee, 1911.*Donated by* Burpee, 1913.*Description in brief* — Large, waved, red-flaked on a white ground.*Description in detail* — Color of standard and wings rosy white 8 (1), striped with red-dish purple 161 (1). Flower very large, waved form; standard large, waved; wings long and broad, concealing the keel. Flowers usually three, on strong, short stems. Moderately fragrant. Moderately productive. Sunproof. A garden or exhibition variety. Plant of medium height and stout, healthy growth. Leaflets dark green, broad, pointed; tendrils green.**GAIETY SPENCER***Originated by* Morse.*Introduced by* Burpee, 1912.*Donated by* Burpee, Morse, 1912.*Description in brief* — A waved variety.*Description in detail* — The standard and wings are striped with purple-rose 150 (1) on a rosy white 8 (1) ground. Flower very large, waved form; standard very large, waved, some double; wings large, long and broad. Flowers three to four, well placed on very long, strong stems. Productive. Plant of strong, vigorous growth. Foliage rich dark green; tendrils colored; color in axils of peduncles and leaflets.**JACK UNWIN***Originated by* Unwin.*Introduced by* Unwin, 1909.*Donated by* Unwin, 1910.*Description in brief* — A large, waved, red-striped variety, for garden or exhibition use.*Description in detail* — Color of stripes Rose Neyron red 119 (2-3) on a white ground. Standard large, slightly waved; wings large, hooded, concealing the keel. Flowers two to four, on long stems of moderate strength. Fragrant. Bloom profuse. Sunproof. Plant of medium height and strong, healthy growth. Color in axils of leaves.*Comparison* — The Unwin form of Mrs. Joseph Chamberlain.*Remarks* — A fixed stock.**PARADISE RED FLAKE***Originated by* Miss Hemus.*Introduced by* Miss Hemus, 1908.*Donated by* Miss Hemus, 1910.*Description in brief* — A large, red-striped variety.*Description in detail* — A rosy white ground 8 (3-4), with stripes of madder carmine 141 (3-4) on standard and carmine-purple 156 (1) on wings. Standard large, upright, open; wings large. Flowers two to three, on moderate stems. Fragrance slight. Plant of strong growth.*Comparison* — A heavier stripe than Jack Unwin. Very distinct from America in color.*Remarks* — A pure stock.

RAINBOW SPENCER

Originated by Morse.*Introduced by* Morse, Burpee, 1912*Donated by* Burpee, Boddington, Morse, 1912.*Description in detail* — A faint pink stripe on white. Flower very large, waved form; standard very large, waved; wings very large. Flowers on long, very strong stems. Plant of strong, vigorous growth.*Comparison* — Larger than Gaiety Spencer.*Remarks* — All stocks were one half to three fourths Gaiety Spencer.

RAMONA SPENCER

Originated by Morse.*Introduced by* Morse, 1909.*Donated by* Boddington, Morse, 1910; Burpee, 1911, 1912.*Description in brief* — A medium to large, waved flower, striped with pale rosy pink; a garden variety.*Description in detail* — Color of stripes rosy pink 118 (1) on a rosy white 8 (1) ground. Standard medium to large, waved; wings of medium size, waved, concealing the keel. Flowers two to three, on fair stems. Moderately fragrant. Bloom profuse, continuous. Plant of moderately vigorous, healthy growth. Flowers fade, becoming almost white.*Comparison* — Rosabelle Hoare is a deeper stripe. Later stocks of this variety are superior to those of 1910 and have superseded Rosabelle Hoare.*Remarks* — Too pale a stripe.

RED FLAKE SPENCER

Originated by —————.*Introduced by* Henderson, 1910.*Donated by* Henderson, 1910.*Description in brief* — A red stripe on a white ground.*Synonyms* — Synonymous with America.*Remarks* — A mixed stock.

ROSABELLE HOARE

Originated by Unwin.*Introduced by* Unwin, 1909.*Donated by* Unwin, 1910.*Description in brief* — A large, flaked variety, Unwin form.*Description in detail* — Ground color rosy white 8 (4), with stripes of Rose Neyron red 119 (1-2) on standard and rosy pink 118 (1-2) on wings. Standard large, Unwin form; wings large, hooded, concealing the keel. Flowers three, on strong stems of moderate length. Fragrant. Bloom profuse, continuous. Sunproof. Plant of strong, healthy growth.*Comparison* — Flowers deeper-colored than Ramona Spencer. After 1910 Ramona Spencer was so much improved as to supersede Rosabelle Hoare.*Remarks* — A fixed stock.

UNCLE SAM

Originated by Burpee.*Introduced by* —————.*Donated by* Burpee, for advance trial.*Description in brief* — A large, waved flower, with deep red stripes; a garden variety.

Description in detail — Color of stripes on standard geranium red 111 (1), on wings 111 (1-2), on a white ground. Standard large, slightly waved; wings large, partly open. Flowers two to three, on moderately long, strong stems. Plant of moderately tall, vigorous growth.

Comparison — Superior in size to Red Flake Paradise.

Remarks — A fixed stock. Should have been introduced in 1911, as it was then the best crimson-striped variety.

Striped and Flaked (Rose on primrose ground)

ZEBRA

Originated by Biffen.

Introduced by Miss Hemus, 1910.

Donated by Miss Hemus, 1910.

Description in brief — Large, "reddish mauve flake" on a creamy white ground; a garden or exhibition variety.

Description in detail — Standard striped with violet-rose 154 (3-4), wings with 154 (1-2), on a creamy white 10 (1-2) ground. Standard large, waved; wings long and broad, partly open. Flowers two to three, on strong stems. Moderate fragrance. Bloom free. Burns slightly. Plant of medium height and stout, healthy growth.

Remarks — A pure stock. Distinct in color from the other varieties here listed.

White

ALTHORP WHITE

Originated by Cole.

Introduced by Cole, 1910.

Donated by Cole.

Description in brief — A large, pure white, waved variety, for garden or exhibition use.

Description in detail — Color milk white 11 (2-3). Standard large, Spencer-waved, with round top; wings short, broad, partly open, waved. Flowers three, on long, strong stems. Moderately fragrant. Bloom profuse. Plant of moderately strong, healthy growth. Seed white.

Synonyms — A synonym of Etta Dyke.

Remarks — Stock pure.

ETTA DYKE

Originated by Breadmore.

Introduced by Breadmore, 1908.

Donated by Boddington, Dobbie, Rawson, Unwin, 1910.

Description in brief — A large, pure white, Spencer-waved variety.

Description in detail — Color of standard and wings milk white 11 (3-4). Flower large, waved form; standard large, much waved; wings long and broad, concealing the keel. Flowers three to four, irregularly spaced on long, strong stems. Very fragrant. Bloom profuse. Plant of medium height and strong, healthy growth. Tendrils green. Seed white.

Comparison — Similar to the best strains of Burpee's White Spencer.

Remarks — The English stocks of this variety in 1910 were superior to the American, not only in amount of waviness but also in purity of stock.

FLORENCE WRIGHT SPENCER

Originated by Stark.

Introduced by Stark, 1913.

Donated by Stark, 1912.

Description in brief — A large, waved, white variety.

Description in detail — Opens yellowish white 13 (1-2), fading to pure white. Flower very large, waved form. Substance good. Flowers three to four, on long, stout stems. Plant of tall, vigorous growth. Foliage dark green.

Comparison — A superior strain of Florence Wright.

MRS. SANKEY SPENCER

Originated by Morse.

Introduced by Morse, 1909.

Donated by Boddington, Morse, 1910.

Description in brief — A large, waved, white variety.

Description in detail — Color milk white 11 (1-2); shows a tinge of pink in opening buds, but fades to white. Standard large, Spencer-waved; wings long and broad, partly open. Flowers two to four, on long, strong stems. Fragrant. Bloom profuse, continuous, lasting well on plant. Sunproof. Plant of strong, vigorous growth. Seed large, round, dark brown.

Remarks — One stock pure.

MONEymAKER

Originated by Agate.

Introduced by Agate, Lumley, 1910.

Donated by Farquhar, 1913.

Description in brief — A very large, waved, white variety.

Description in detail — Color snow white 2 (1). Flower very large, waved form; standard very large, slightly waved; wings large, short and broad. Flowers three, on long, strong stems. Fragrance moderate. Moderately productive. Sunproof. Plant of tall, stout growth. Leaflets broad, round, dark green.

Remarks — Stock pure, true.

NORA UNWIN

Originated by Unwin.

Introduced by Unwin, and Watkins & Simpson.

Donated by Boddington, Dobbie, Rawson, Unwin, and Watkins & Simpson.

Description in brief — A large, pure white, waved variety, for garden or market use.

Description in detail — Color milk white 11 (3-4). Standard large, slightly waved, with round top; wings long and broad, concealing the keel. Flowers two to four, mostly three, on long, strong stems. Moderately fragrant. Bloom profuse, continuous. Plant of tall, strong, healthy growth. Seed white. Germination forty to seventy-five per cent.

Remarks — A standard white variety.

SNOWDON

Originated by —————.

Introduced by Watkins & Simpson, 1913.

Donated by Boddington, 1913.

Description in detail — Color of standard and wings snow white 2 (1). Flower large, waved form; standard large, waved; wings short and broad, concealing the keel. Flowers three, on stems of medium length. Moderate fragrance. Bloom medium. Sunproof. Plant of tall, slender growth. Leaflets broad, round, dark green.

Remarks — Stock pure, true.

WHITE QUEEN

*Originated by Stark.**Introduced by Stark, 1912.**Donated by Stark, 1912.**Description in brief* — A large, waved, white variety.*Description in detail* — Opens yellowish white 13 (1), fading to pure white. Flower large. Flowers three to four, on very long, strong stems. Plant tall, very vigorous. Foliage dark green, healthy.*Comparison* — Superior to White Spencer.*Remarks* — Should be given a trial.

WHITE SPENCER

*Originated by Routzahn.**Introduced by Burpee, 1908.**Donated by Boddington, Henderson, Morse, Rawson, 1910.**Description in brief* — Large, pure white, waved, productive; a garden, market, and exhibition variety.*Description in detail* — Color of flower milk white 11 (3-4). Standard large, Spencer-waved, with round top; wings long and broad, waved, partly open. Flowers two to four, usually three, on long, strong stems. Fragrant. Bloom profuse. Mid-season. Plant of tall, healthy, vigorous growth. Seed white. Germination seventy to eighty per cent.*Synonyms* — The true flowers of this variety are identical with Etta Dyke, under which name it is known in England.*Remarks* — Two of the stocks received in 1910 were pure as to color, but all gave some flowers that were not of the waved form. A standard white variety.

THE BEST VARIETIES OF SWEET PEAS

The following list includes our selection from the hundreds of varieties tested under New York conditions. It is a matter of personal taste whether some of the color sections are desirable for any particular garden; however, it is easily possible to select those varieties that are suited to individual tastes.

WAVED VARIETIES

Bicolor — Mrs. Cuthbertson, Colleen.
Blue — Margaret Madison, Flora Norton Spencer, Blue Jacket.
Blush — Lady Evelyn Eyre, Princess Victoria, Florence Morse Spencer.
Carmine — John Ingman.
Cerise — Chrissie Unwin.
Cream, Buff, and Ivory — Primrose Spencer, Isobel Malcolm, Primrose Beauty, Lady Knox, Queen Victoria Spencer.
Cream-pink (Deep) — Mrs. Gibbs Box, Constance Oliver.
Cream-pink (Pale) — Mrs. Routzahn, Lady Miller, Mrs. Hugh Dickson.
Crimson — King Edward Spencer.
Fancy — Afterglow.
Lavender — Florence Nightingale.
Magenta — Menie Christie.
Marbled — May Campbell.
Maroon — Nubian, King Manoel.
Maroon-purple — Arthur Green.
Maroon-red — Brunette, Red Chief.
Mauve (Dark) — Tennant Spencer.
Mauve (Pale) — Mrs. Heslington, Mauve Queen.
Orange-pink — Edrom Beauty, Carene, Helen Lewis.
Orange-scarlet — Thomas Stevenson.
Picotee edged (Cream ground) — Evelyn Hemus, Mrs. C. W. Breadmore.
Picotee edged (White ground) — Dainty Spencer, Elsie Herbert, Martha Washington.
Pink (Deep) — Hercules, Countess Spencer.
Pink (Pale) — Elfrida Pearson.
Rose — Marie Corelli, Rosabelle.
Salmon Shades — Stirling Stent, Melba, Barbara.
Scarlet — Dobbie's Scarlet, Scarlet Emperor, Red Star.
Striped and Flaked (Chocolate on gray ground) — Senator Spencer.
Striped and Flaked (Purple and blue) — Loyalty.
Striped and Flaked (Red and rose) — America Spencer, Aurora Spencer, Mrs. W. J. Unwin.
White — White Spencer, Nora Unwin.

VARIETIES OF OPEN AND HOODED FORMS

Bicolor — Blanche Ferry, Jeannie Gordon.
Blue — Brilliant Blue, Navy Blue.
Blue (Light) — Flora Norton.
Blush — Modesty.
Cerise — Coccinea.

Cream, Buff, and Ivory — Zarina, The Honorable Mrs. E. Kenyon, Queen Victoria.
Crimson — King Edward VII.
Lavender — Lady Grizel Hamilton.
Marbled — Helen Pierce.
Maroon — Black Knight, Othello.
Mauve — Admiration, Mrs. Walter Wright, Dorothy Tennant.
Orange Shades — Henry Eckford, Miss Wilmott.
Picotee edged — Dainty, Lottie Eckford, Phenomenal.
Pink — Prima Donna, Lovely, Katherine Tracy, Janet Scott.
Rose and Carmine — Lord Roseberry.
Scarlet — Queen Alexandra.
Striped and Flaked (Chocolate on gray ground) — Senator.
Striped and Flaked (Purple and blue) — Princess of Wales, Hester
Striped and Flaked (Red and rose) — America, Aurora, Ramona.
White — Dorothy Eckford, Shasta, Emily Henderson, White Wonder.

EARLY-FLOWERING VARIETIES

Bicolor — Earliest of All.
Blue — Le Marquis (described in Bulletin 319 of this station, page 655).
Lavender — Mrs. Alexander Wallace (described in Bulletin 319, page 653).
Primrose — Earliest Sunbeams.
Salmon-pink — Mrs. William Sim (described in Bulletin 319, page 648).
White — Earliest White, Mont Blanc.

MARKET VARIETIES

Open and hooded varieties — Dorothy Eckford, King Edward VII, Brilliant Blue, Lady Grizel Hamilton, Prima Donna, Blanche Ferry.
Waved varieties — Countess Spencer, Nora Unwin, Asta Ohn, King Edward Spencer.

The market requires flowers of good substance, so that they will endure handling, and in good, clear colors. Pink, Pink and White, Lavender, and Red and White varieties are most in demand and these should comprise the greater part of the plantings. A few of the Blue, Cream-pink, and Primrose varieties may be sold. The number of blooms of the last-named that may be disposed of will depend on the market. The early-flowering varieties mentioned above are suitable for market.

INDEX TO VARIETIES

PAGE	PAGE
Acme.....	259
Admiral Togo.....	266
Admiration.....	275
Adonis.....	236
Afterglow.....	309
Agnes Eckford.....	259
Agnes Johnson.....	237
A. J. Cook.....	322
Alba Magnifica.....	252
Albatross.....	285
Albion.....	286
Alice Eckford.....	233
Althorp Cream.....	297
Althorp White.....	349
America.....	250
American Belle.....	255
American Queen.....	236
America Spencer.....	347
Amethyst.....	323
Andrew Aitken.....	329
Anglian Orange.....	329
Annabel Lee.....	317
Annie B. Gilroy.....	262
Annie Stark.....	283
Apple Blossom.....	255
Apple Blossom Spencer.....	290
April.....	345
Argosy.....	275
Arthur Green.....	320
Arthur Unwin.....	290
Asta Ohn.....	310
Audry Crier.....	333
Aurora.....	283
Aurora Spencer.....	343
Azure Fairy.....	241
Baker's Scarlet.....	239
Barbara.....	338
Beacon.....	231
Beatrice Spencer.....	334
Bertha Massey.....	323
Bertie Hamilton.....	251
Bertie Usher.....	345
Bertrand W. Deal.....	310
Beryl.....	303
Betty.....	323
Black.....	243
Blackbird.....	266
Black Knight.....	242
Black Michael.....	242
Blanche Burpee.....	285
Blanche Ferry.....	229
Blanche Ferry Spencer.....	290
Blue Bell (May).....	231
Blue Belle (Bide).....	232
Blue Bird.....	266
Blue Edged.....	246
Blue Flake.....	345
Blue Flake Spencer.....	346
Blue Jacket.....	291
Blushing Beauty.....	259
Blushing Bride.....	229
Blush Queen.....	293
Blush Rose Spencer.....	334
Bob.....	264
Bobby K.....	293
Bolton's Pink.....	276
Bolton's Scarlet.....	339
Boreatton.....	243
Bride of Niagara.....	229
Bridesmaid.....	247
Brilliant.....	264
Brilliant Blue.....	258
Britannia.....	284
British Queen.....	261
Bronze King.....	231
Bronze Paradise.....	318
Bronze Prince.....	231
Brunette.....	322
Butterfly.....	277
Buttonhole.....	277
California.....	259
Calypso.....	241
Caprice (Henderson).....	281
Caprice (Johnson).....	284
Captain Clarke.....	246
Captain of the Blues.....	257
Captain of the Blues Spencer.....	321
Captivation.....	244
Captivation Spencer.....	306
Cardinal.....	238
Cardinal Wolseley.....	243
Carene.....	326

PAGE	PAGE		
Carmen Sylva.....	241	Dobbie's Scarlet.....	340
Carmine Invincible.....	238	Dolly Varden.....	278
Celestial.....	271	Dora.....	310
Chancellor.....	277	Dora Breadmore.....	270
Charles Foster.....	309	Doris Burt.....	340
Charles Hems.....	318	Doris Usher.....	301
Charm.....	336	Dorothy Eckford.....	285
Chastity.....	332	Dorothy Tennant.....	275
Chrissie Unwin.....	296	Dorothy Vick.....	235
Clara Curtis.....	297	Double Duke of Clarence.....	268
Coccinea.....	262	Double Primrose Beauty.....	298
Coccinea Paradise.....	297	Douglas Breadmore.....	281
Colleen.....	290	Douglas Unwin.....	318
Colonist.....	260	Dragonfly.....	310
Columbia.....	250	Duchess of Edinburgh.....	235
Constance Oliver.....	301	Duchess of Marlboro.....	247
Coquette.....	255	Duchess of Sutherland.....	260
Coral Gem.....	263	Duchess of Westminster.....	237
Coronation (?).....	237	Duchess of York.....	251
Coronation (Bolton).....	303	Dudley Lees.....	268
Coronet.....	249	Duke of Clarence.....	268
Cottage Maid.....	259	Duke of Clarence, Double (see Double Duke of Clarence).....	268
Countess Cadogan.....	257	Duke of Kent.....	248
Countess of Aberdeen.....	260	Duke of Sutherland.....	268
Countess of Lathom.....	263	Duke of Westminster.....	257
Countess of Powis.....	245	Duke of York.....	231
Countess of Radnor.....	271	Earl Cromer.....	273
Countess of Shrewsbury.....	231	Earliest of All.....	229
Countess Spencer.....	334	Earliest Sunbeams.....	254
Cream of Brockhampton.....	286	Earliest White.....	252
Creole.....	240	Earl Spencer.....	338
Crimson Giant.....	307	Eastern Queen.....	282
Crimson Paradise.....	307	Edith Taylor.....	326
Crown Jewel.....	255	Edna Turner.....	337
Crown Princess of Prussia.....	247	Edna Unwin Improved.....	329
Cyril Breadmore.....	261	Edrom Beauty.....	327
Cyril Unwin.....	318	E. J. Castle.....	295
Dainty.....	279	Elaine.....	298
Dainty Spencer.....	332	Elfrida Pearson.....	336
David R. Williamson.....	257	Elfrieda.....	249
Dawn (Stark).....	255	Ella Kelway.....	303
Dawn (Walker).....	274	Elsie Herbert.....	332
Daybreak.....	250	Emily Eckford.....	275
Dazzler.....	329	Emily Eckford Spencer.....	323
Delicata.....	260	Emily Henderson.....	252
Delight.....	234	Emily Lynch.....	255
Devonshire Cream.....	254	Empress.....	324
Distinctive.....	332	Empress of India (Eckford).....	232
Dobbie's Cream.....	297		

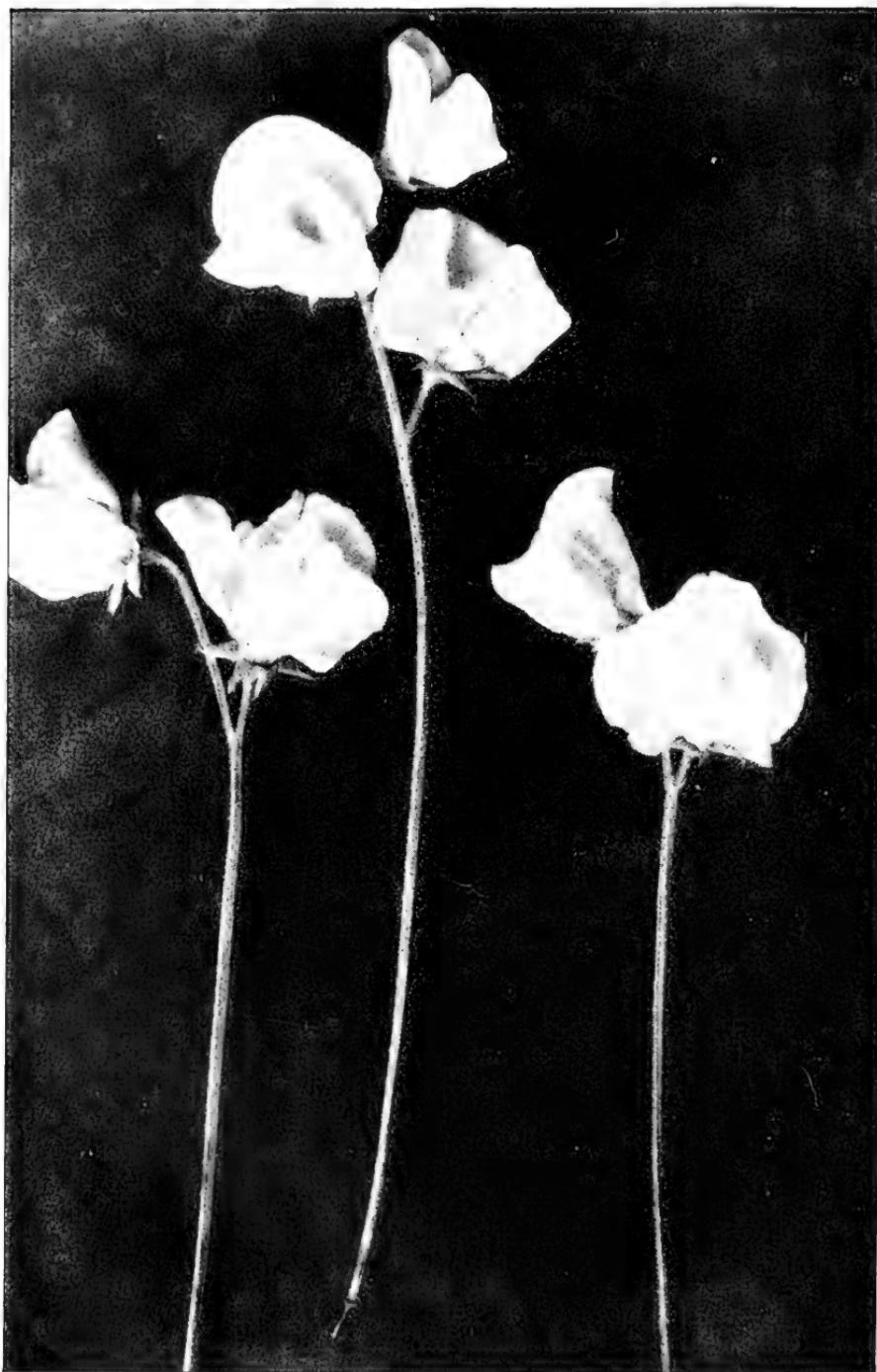
PAGE	PAGE		
Empress of India (May).....	243	Gladys Unwin.....	335
Enchantress.....	334	Glyn Turquand.....	327
Enid.....	256	Golden Gate.....	278
Eric Harvey.....	333	Golden Gleam.....	287
Esmeralda.....	261	Golden Rose.....	283
Ethel Roosevelt.....	344	Gorgeous.....	245
Etna.....	241	Grace May.....	252
Etta Dyke.....	349	Gracie Greenwood.....	263
Evelyn Breadmore.....	260	Gray Friar.....	274
Evelyn Byatt.....	245	G. W. Kerr.....	263
Evelyn Hemus.....	331	Hannah Dale.....	267
Evening Star.....	237	Harold.....	254
Exquisite.....	274	Harvard.....	265
Extra Early Blanche Ferry.....	230	Helen Grosvenor.....	327
Fadeless Scarlet Gem.....	239	Helen Lewis.....	327
Fairy Queen.....	234	Helen Pierce.....	241
Fascination.....	275	Helen Williams.....	331
Fashion.....	273	Helio Paradise.....	324
Felicity.....	310	Heliotrope Spencer.....	324
Finetta Bathurst.....	285	Henry Eckford.....	248
Firefly.....	239	Herbert Smith.....	245
Flora Norton.....	233	Hercules.....	335
Flora Norton Spencer.....	292	Her Majesty.....	261
Florence Fraser.....	230	Hester.....	249
Florence Molyneaux.....	282	Hetty Green.....	245
Florence Morse Spencer.....	294	Hilda Jeffrey.....	255
Florence Nightingale.....	311	H. J. R. Digges.....	267
Florence Spencer.....	334	Holdfast Belle.....	304
Florence Wright Spencer.....	349	Honorable F. Bouverie.....	263
Florist Lavender.....	271	Horace Wright.....	268
Florrie Crutcher.....	280	Igneia.....	265
Forty-niner.....	286	Imperial Blue.....	258
Frances Deal.....	324	Improved Dudley Lees.....	268
Frank Dolby.....	311	Inconstancy.....	254
Frank Unwin.....	311	Indigo King.....	269
Gaiety.....	284	Inspector.....	339
Gaiety Spencer.....	347	Invincible Scarlet.....	239
Garnet Spencer.....	319	Invincible Scarlet Striped.....	251
G. C. Waud.....	307	Invincible Striped.....	251
Gem.....	232	Irish Belle.....	311
George Curzon.....	346	Isa Eckford.....	248
George Gordon.....	273	Isobel Malcolm.....	298
George Herbert.....	296	Ivanhoe.....	312
George Stark.....	340	Ivy Miller.....	278
George Stark Improved.....	340	Jack Unwin.....	347
George Washington.....	341	James Grieve.....	287
Giant Cream Waved.....	298	Janet Scott.....	263
Gladys Burt.....	304	Jeannie Gordon.....	256
Gladys French.....	274	Jessie Cuthbertson.....	283

	PAGE		PAGE
Jet.....	267	Loyalty.....	346
John Ingman.....	296	Madame Carnot.....	258
John Ridd.....	321	Madeline Cole.....	272
Josephine White.....	252	Magnificent.....	343
J. T. Crier.....	271	Maid of Honor.....	279
Juanita.....	281	Majestic.....	261
Juliet.....	304	Malcolm's No. 14.....	313
Katherine Tracy.....	248	Mandoline.....	313
Kelway Black.....	269	Marbled Blue.....	249
Keston Red.....	266	Marchioness of Cholmondeley.....	270
King Edward Improved.....	239	Margaret Madison.....	292
King Edward VII.....	239	Marie Corelli.....	337
King Edward Spencer.....	307	Marion.....	335
King Manoel.....	319	Marjorie Willis.....	337
King Marjorie.....	337	Marks Tey.....	316
Lady Aberdare.....	260	Maroon Paradise.....	321
Lady Althorp.....	294	Mars.....	265
Lady Beaconsfield.....	232	Martha Washington.....	333
Lady Cooper.....	272	Mary Garden.....	301
Lady Dalkeith.....	230	Masterpiece.....	313
Lady Evelyn Eyre.....	294	Mauve Beauty.....	313
Lady Grizel Hamilton.....	272	Mauve Paradise.....	325
Lady Knox.....	298	Mauve Queen.....	325
Lady Mary Currie.....	277	Mauve Spencer.....	313
Lady Miller.....	304	May Campbell.....	317
Lady M. Ormsby Gore.....	270	May Farquhar.....	292
Lady Nina Balfour.....	272	May Perrett.....	237
Lady Sarah Spencer.....	335	May Perrett Spencer.....	299
Lady Skelmersdale.....	256	Melba.....	339
Laura Wyatt.....	328	Menie Christie.....	316
Lavender Queen.....	312	Meteor.....	246
Lavender Spencer.....	312	Mid Blue.....	233
Lemon Queen.....	234	Midnight.....	267
Leslie Imber.....	292	Mikado.....	284
Liberty.....	307	Mildred Ward.....	246
Light Gaiety.....	284	Millie Maslin.....	265
Lila.....	294	Mima Johnston.....	236
Lilac Queen.....	312	Minnehaha.....	252
Little Dorrit.....	230	Minnie Furnell.....	302
Lord Althorp.....	328	Minnie Keepers.....	272
Lord Derby.....	280	Miriam Beaver.....	302
Lord Kenyon.....	273	Miss Bostock.....	264
Lord Nelson.....	258	Miss E. F. Drayson.....	341
Lord Roseberry.....	273	Miss Ethel.....	234
Lorna Doone.....	295	Miss Hunt.....	236
Lottie Eckford.....	278	Miss Wilmott.....	277
Lottie Hutchins.....	283	Miss Wilmott Improved.....	277
Lovely.....	280	Mrs. Alfred Watkins.....	336
Lovely Spencer.....	335	Mrs. A. Malcolm.....	287

	PAGE		PAGE
Mrs. Andrew Ireland.....	290	New Countess.....	272
Mrs. Bieberstedt.....	276	New Improved Lucy Hemus.....	291
Mrs. Charles Foster.....	314	Nigger.....	267
Mrs. Charles Masters.....	264	Nita.....	281
Mrs. Collier.....	287	Nora Unwin.....	350
Mrs. Cuthbertson.....	291	Novelty.....	236
Mrs. C. W. Breadmore.....	331	Nubian.....	319
Mrs. Dugdale.....	260	Nymphaea.....	279
Mrs. Duncan.....	308	Oddity.....	261
Mrs. Eckford.....	287	Olive Ruffell.....	303
Mrs. E. Cowdy.....	321	Orange King.....	330
Mrs. E. Gilman.....	256	Orange Perfection.....	330
Mrs. E. Herbert.....	280	Orange Prince.....	246
Mrs. Fitzgerald.....	270	Orange Spencer.....	328
Mrs. George Higginson, jr.....	272	Orchid.....	315
Mrs. Gibbs Box.....	302	Oregonia.....	285
Mrs. Gladstone.....	234	Oriental.....	277
Mrs. Hardcastle Sykes.....	295	Orion.....	308
Mrs. H. D. Tigwell.....	344	Othello.....	267
Mrs. Henry Bell.....	305	Othello Spencer.....	319
Mrs. Heslington.....	325	Ovid.....	261
Mrs. H. Kendall Barnes.....	270	Painted Lady.....	230
Mrs. Hugh Dickson.....	305	Paradise.....	336
Mrs. Isaac House.....	272	Paradise Beauty.....	299
Mrs. J. Miller.....	277	Paradise Blue Flake.....	346
Mrs. Joseph Chamberlain.....	284	Paradise Carmine.....	296
Mrs. Knights-Smith.....	280	Paradise Ivory.....	299
Mrs. Langtry.....	252	Paradise Red Flake.....	347
Mrs. Reginald Hill.....	314	Paradise Regained.....	295
Mrs. R. M. Shelton.....	261	Peach Blossom.....	248
Mrs. Routzahn.....	305	Peacock.....	244
Mrs. Sankey.....	285	Pearl Grey.....	315
Mrs. Sankey Spencer.....	350	Perdita.....	274
Mrs. Stewart Champion.....	305	Phenomenal.....	279
Mrs. S. T. Walker.....	260	Phoebus.....	328
Mrs. Tom Fogg.....	276	Phyllis Unwin.....	296
Mrs. Walter Wright.....	276	Picotee.....	333
Mrs. W. J. Unwin.....	344	Pink Friar.....	274
Modesty.....	260	Pink Snapdragon.....	288
Monarch.....	269	Premier.....	341
Moneymaker.....	350	Prima Donna.....	280
Mont Blanc.....	253	Primrose.....	254
Moonstone.....	314	Primrose Beauty.....	299
Natoma.....	302	Primrose Beauty, Double (see Double Primrose Beauty)	
Navy Blue.....	258	Primrose Paradise.....	300
Negro.....	243	Primrose Spencer.....	300
Nell Gwynne.....	303	Prince Edward of York.....	235
Nellie Janes.....	230	Prince of Asturias.....	320
Nettie Jenkins.....	314		

	PAGE		PAGE
Prince of Orange.....	328	Royal Rose.....	256
Prince of Wales.....	262	Royal Scarlet.....	342
Prince Olaf.....	249	Royalty.....	325
Princess Alice Spencer.....	315	Ruby.....	330
Princess Beatrice.....	248	Ruby Palmer.....	308
Princess Catherine.....	295	Sadie Burpee (black-seeded).....	285
Princess Louise.....	244	Sadie Burpee (white-seeded).....	286
Princess Maud of Wales.....	262	Safrano.....	288
Princess May.....	240	St. George.....	330
Princess of Wales.....	281	Salopian.....	265
Princess Victoria (Dobbie).....	295	Salvation Lassie.....	289
Princess Victoria (Eckford).....	235	Scarlet Emperor.....	342
Purple.....	316	Scarlet Empress.....	342
Purple Brown Stripe.....	250	Scarlet Gem.....	240
Purple King.....	269	Scarlet Monarch.....	342
Purple Prince.....	269	Seafoam.....	301
Purple Prince Spencer.....	322	Senator.....	281
Purple Snapdragon.....	288	Senator Spencer.....	343
Queen Alexandra.....	266	Sensation.....	260
Queenie.....	300	Shahzada.....	267
Queen Mary.....	306	Shasta.....	253
Queen of England.....	253	Shawondasee.....	292
Queen of Mauves.....	315	Silas Cole.....	320
Queen of Pinks.....	280	Snowdon.....	350
Queen of Spain.....	264	Snowflake.....	253
Queen of the Isles.....	251	Southcote Blue.....	293
Queen Victoria.....	287	Speckled Beauty.....	274
Queen Victoria Spencer.....	300	Splendid Lilac.....	247
Rainbow Spencer.....	348	Splendour.....	262
Ramona.....	285	Stanley.....	243
Ramona Spencer.....	348	Stark's Elegance.....	344
Red and White Striped.....	251	Stella Morse.....	271
Red Chief.....	322	Stirling Stent.....	339
Red Flake Spencer.....	348	Striped Celestial.....	282
Red Paradise.....	341	Striped Tenant.....	282
Red Riding Hood.....	288	Sue Earl.....	271
Red Star.....	341	Sultan.....	244
Regina.....	243	Sunproof King.....	309
Reselected Extreme Early Earliest of All.....	230	Sunproof Salopian.....	266
Rising Sun.....	242	Sunrise.....	237
Romolo Piazzani.....	276	Sunset.....	283
Rosabelle.....	338	Sutton's Queen.....	306
Rosabelle Hoare.....	348	Sweet Lavender.....	317
Rose Diamond.....	338	Sybil Eckford.....	240
Rose Queen.....	281	Tenant Spencer.....	326
Rosie Adams.....	308	The Bride.....	286
Royal Purple.....	317	The Fairy.....	273
Royal Robe.....	281	The Honorable Mrs. E. Kenyon.....	288
		The King.....	309

	PAGE		PAGE
The Marquis.....	326	Wawona.....	282
The Queen.....	244	W. E. Gladstone.....	240
Thomas Stevenson.....	331	White Queen.....	351
Tortoise Shell.....	339	White Snapdragon.....	289
Triumph.....	232	White Spencer.....	351
Triumph Spencer.....	291	White Triumph.....	253
True Lavender.....	273	White Wonder.....	286
Tweedy Smith.....	256	Winifred Deal.....	333
Uncle Sam.....	348	Winifred Unwin.....	316
Unique.....	282	W. T. Hutchins.....	306
Venus.....	264	Yellow Hammer.....	288
Vermilion Brilliant.....	343	Zara.....	336
Vesuvius.....	242	Zarina.....	238
Victor Unwin.....	320	Zebra.....	349
Violet Queen.....	244	Zena.....	345
Walter P. Wright.....	316	Zephyr.....	293
Waverly.....	258	Zero.....	253
Waverly Spencer.....	322	Zoe.....	233



The winter-flowering sweet pea, Canary

SWEET PEA STUDIES—II

WINTER-FLOWERING SWEET PEAS

ALVIN C. BEAL

Next in order to the waved section the most important type of sweet peas yet developed from the older garden forms is the winter-flowering class, which has reached its greatest perfection in the United States.

DISTINGUISHING CHARACTERS

The winter-flowering type is absolutely distinct in its habit of growth and its early-flowering character. Unlike the garden types, which apparently stand still for a time when only a few inches high while side shoots are developed, the winter-flowering peas grow rapidly until they attain a height of two to four feet; then they begin to flower freely, after which time side shoots are developed. In trials at this station the varieties of the winter-flowering type, planted September 24, came into flower between Thanksgiving and Christmas; while some varieties of the waved and the older types, planted at the same time, did not flower until the last week in April. Many varieties of the first-named type were flowering freely at the holidays, but the record would have been surpassed had it not been for the fact that during the month of November the region about Ithaca had not an entire day of sunshine and had only two partly sunny days. December was almost as dark and cloudy.

The winter-flowering peas make their greatest growth under glass. When planted in the spring in the open ground they make a very slender growth as compared with the garden type, and flower early in the season when a few inches high. However, they flower very profusely and continuously.

The garden type stools out well when planted under glass, but requires the entire winter for growth if planted in the fall. It is said by a practical grower that seed planted in January will flower as soon as that planted in August. This difference in habit of growth, manifesting itself very early, is of great value to the florist in enabling him to guard against loss from procuring the wrong seed.

The flowers of the winter-flowering type are generally of the open form of Blanche Ferry. Some of the English- and American-raised varieties of this type are hooded, and Anton C. Zvolanek is perfecting a waved-flower group. At this station it is thought that the open-flowered type

is superior in substance in midwinter, and the flowers remain open. This appears, therefore, to be the commercial type. The perfection of this type will be along the line of increased size and of number of flowers on a stem.



Wallacea

Countess of Radnor

FIG 171.—Difference in growth of the winter-flowering and garden types

The hooded varieties are often too much hooded and have, in the eyes of the buyer, a wilted appearance; or, even when they show their freshness, the flowers do not give the appearance of their real size, as is seen in Mrs. F. J. Dolansky.

FORCING SWEET PEAS

Fifteen years ago sweet peas were usually fairly plentiful in the markets of the large cities about the first of April, and sometimes flowers were seen as early as the last week in February. Among the varieties grown were Blanche Ferry, Lottie Eckford, Emily Henderson, and Katherine Tracy. The seeds were usually sown in August or September in pots and benched after chrysanthemums, or seeds were planted in carnation benches and the plants trained on the purlin supports of the greenhouse. William Scott advocated the above methods, especially the latter, as he asserted that the plants did not make much growth until the bright spring days when there was sufficient sunshine for both carnations and sweet peas.

Florists have been growing sweet peas under glass to a limited extent for a number of years. Soon after the introduction of Blanche Ferry, at least twenty years ago, this variety was tried under glass. The first record of sweet peas being grown under glass in any other than a very limited way is in 1897, when, Mr. Zvolanek states, he grew three houses of them, thus becoming undoubtedly the largest grower in the country at that time. In March of that year, sweet peas, white and pink, were reported as very plentiful in the New York market, selling at first at twenty-five cents for a bunch of twelve sprays.

Previous to the introduction of the Zvolanek varieties in 1906, besides the varieties above given, the following were grown: Emily Eckford, Golden Gleam, Countess of Radnor.

LEADING TYPES

Christmas-flowering group

This group of winter-flowering sweet peas was developed by Anton C. Zvolanek, now of Bound Brook, N. J., who doubtless supplied The Weekly Florists' Review with the following account of their origin, appearing in the issue of that periodical for April 13, 1899, page 495:

Sweet peas under glass

"The accompanying engraving is from a photograph taken January 6 last, of a house of sweet peas at the establishment of Mr. Ant. C. Zvolanek, West Hoboken, N. J. The boxes seen in the picture are 6 inches wide and 6 inches deep. The seed was sown in these boxes, out of doors, September 2, and the boxes taken inside the last week in October. The plants began to bloom November 20, and the first cut of 200 flowers was sent to market November 24. The house was 12 x 73 feet and built of sash containing 6x8-inch glass. The temperature given was 45

degrees at night. From this house Mr. Zvolanek cut 20,400 blooms during the month of December and 38,800 during January, the stems 14 inches long.

"The variety is one that originated with Mr. Zvolanek. Five years ago he noted among some Lottie Eckfords a plant that started flowering about two weeks earlier than the others and was dwarfer in habit. The following year he fertilized this with Blanche Ferry and the result was a decided improvement in color, size, stem, and habit. He named it Zvolanek's Christmas. He has five other houses of sweet peas, the seed having been sown outside in 4-inch pots early in September and the seedlings planted out in the solid beds inside in November and December in the same soil in which chrysanthemums had been growing. These seem to do as well as those in boxes, supplying a crop of flowers by Christmas."

The above account of the origin of this group is confirmed in a paper written by Mr. Zvolanek and published in Möller's "Deutsche Gartner-Zeitung," May 3, 1902. In that account he states that he discovered the original plants in January, 1892, among Lottie Eckfords that did not usually flower until March. The following is his account:

"On January 1, 1895, I was able to send the first ten dozen cut blooms to New York, where they occasioned great surprise. In 1899 I introduced this variety as Zvolanek's Christmas.

"Meanwhile I endeavored to secure other colors by crossing, in which I was also successful. In January, 1899, I exhibited four new seedlings before the New York Florists' Club, and these were in the colors pure white, lavender, malmaison-colored, and red; all of which were commended. Especially prominent is the pure white, which was registered with the Society of American Florists December 18, 1900, as Miss Florence E. Denzer and which will be sent out next August (1902). This excellent sort surpasses its mother, Zvolanek's Christmas, in the size of its flowers as well as in length of stem, producing over twenty per cent blooms with four flowers on very long stems."

There was found no record of the exhibit mentioned above, but the writer finds mentioned and illustrated in *The American Florist* for January 6, 1900, the following new and promising varieties originated by Mr. Zvolanek:

"No. 1 has been named Zvolanek's Christmas; No. 2 is a seedling from Emily Henderson; No. 3, variegated seedling; No. 4, sport from Zvolanek's Christmas; No. 5, seedling from Katherine Tracy."

The New York Florists' Club, on January 14, 1901, awarded honorable mention to A. C. Zvolanek for a pink variety named Christmas and for two white varieties, No. 6 and Miss Florence E. Denzer.

The parentage of the chief varieties of this group has been given by Mr. Zvolanek as follows:

Miss Florence E. Denzer — Christmas x Emily Henderson
 Christmas Comtes — Improved Christmas x New Countess
 Christmas Captain — Florence E. Denzer x Captain of the Blues
 Miss Helen M. Gould — Florence E. Denzer x —————
 Mrs. Alexander Wallace — Florence E. Denzer x Lady Grizel Hamilton
 Mrs. Edie Wild — Christmas Pink x Salopian
 Secretary William J. Stewart — Christmas Captain x Countess Spencer
 Mrs. W. W. Smalley — Enchantress x Mrs. E. Wild
 Mrs. William Sim — Christmas White x Mrs. E. Wild
 Mrs. F. J. Dolansky — Seedling of Enchantress
 Mrs. J. F. Hannan — Mrs. William Sim x Mrs. E. Wild
 Miss Josie Reilly — Florence E. Denzer x Mrs. A. Wallace
 Le Marquis — William J. Stewart x Gladys Unwin
 Mrs. Charles H. Totty — Mrs. A. Wallace x blue unnamed seedling
 Greenbrook — Mrs. George Lewis x unnamed seedling
 Blue Bird — Walter Wright x Wallacea
 Mrs. George Lewis — Watchung x Gladys Unwin
 Mrs. Zvolanek — Helen Pierce x Christmas White
 Governor Fort — Seedling of Mrs. William Sim x Spencer seedling

Mr. Zvolanek has probably originated over one hundred varieties, but of this number only the following thirty have been sent out:

- 1900, Christmas, or Christmas Pink.
- 1902, Miss Florence E. Denzer.
- 1905, Christmas Red and Christmas White.
- 1906, Mrs. E. Wild and New Christmas Flowering Hybrids, mostly blue, salmon, and lavender.
- 1907, Le Marquis, Mrs. A. Wallace, Mrs. William J. Stewart, Mrs. F. J. Dolansky, Jack Hunter, Christmas Captain, Mrs. Charles H. Totty, Miss Josie Reilly, and Christmas Meteor.
- 1908, Mrs. W. W. Smalley, Mrs. George Lewis, Greenbrook, Miss Helen M. Gould, and Marian Hannan (Mrs. J. F. Hannan).
- 1909, Wallacea, Governor Fort, Pink Beauty, Mrs. Zvolanek, Helen Keller, and Snow Queen.
- 1910, Blue Bird, Zvolanek's Blue, Zvolanek's Orange, Zvolanek's Pink.

Télemly group

The Télemly varieties of sweet peas have been offered in England for sowing under glass. So far as the writer can learn, they have not yet been offered or grown by the trade in this country.

This group was originated by the Reverend Edwyn Arkwright, in his garden at Télemly, on the hill of Mustapha near the city of Algiers, in Algeria, Africa. For a number of years our great American variety, Blanche Ferry, was grown. This variety has always been known as an early variety, and it flowered about the end of March in the locality mentioned.

The Reverend Mr. Arkwright, in an article in the Sweet Pea Annual for 1907, says:

"About seven years ago a sport showed itself in my garden as early as February and was promptly isolated from all others. The next year I had some plants flowering in January, and among them one red one, a cross apparently from Mars, on which a blossom or two had come out in May of the previous year. From these parents I have now ten or twelve of the usual colours, ranging from white to purple, and including duplicates, or shall I say imitations, of Honorable Mrs. E. Kenyon, Jeannie Gordon, Lady Grizel Hamilton, Mars, Black Knight, etc., which begin to flower about Christmas time and last for five months.

"That they form a distinct group is evident from the fact that Eckford's sweet peas, which I sow at the same time, *i. e.*, at the end of September, do not flower till May. Moreover, the leaf is considerably narrower than in Eckford's varieties and more pointed and the stem appears to have more woody fibre."

Engelmann group (Lathyrus odoratus Praecox)

Another group of winter-flowering sweet peas has been offered by C. Engelmann, of Saffron Walden, Essex, England. Mr. Engelmann says, in the Sweet Pea Annual for 1907:

"It is nearly four years since some plants of Captain of the Blues sported with me and gave winter-flowering varieties of quite distinct habit. Ordinarily stocks sown in autumn will not bloom under glass until the following April, but the newcomers commence to bloom from six to ten weeks after seed sowing, and continue to form branches and produce flowers all through the winter.

"I have now winter-flowering representatives of such varieties as Dorothy Eckford, Lady Grizel Hamilton, and Miss Wilmott, as well as a number of crosses between these and the ordinary type and Mont Blanc, so that almost all sweet pea colours are represented.

"In 1906 I sowed my winter-flowering varieties at the end of August and beginning of September, and the resulting plants commenced to flower in October and were splendidly in bloom at the end of November and early in December, and they should continue to flower until the ordinary sweet peas come into flower."

Blanche Ferry and its descendants

The following is quoted from an article by Will W. Tracy, in *The American Florist*, Vol. 13, April 2, 1898:

"Some forty years ago a woman in northern New York noticed and saved seed from a particularly bright-flowered plant of the Painted Lady. She planted them in her garden, and each succeeding year saved and planted seeds from what she thought were her best plants. She did not raise many, some years not more than a dozen plants and never more than could be grown in three square beds. She was the wife of a quarryman and her garden was always over limestone ledges where the soil, though fertile, was often not over a foot in depth, and gradually her plants became more compact and sturdy, until after some ten or twelve years she ceased to bush them, simply letting them support themselves. After she had raised them in this way for some twenty-five years a seedsman noticed their beauty, obtained about one hundred seeds, and from them has come the Blanche Ferry."

This variety was introduced by D. M. Ferry & Co. in 1889. In their catalog for that year it is shown by means of a colored plate.

Peter Henderson & Co. introduced in 1893 the famous white variety, Emily Henderson, a sport of Blanche Ferry. In 1895 D. M. Ferry & Co. sent out Extra Early Blanche Ferry, which they produced in 1892.

Earliest of All was distributed in 1898 by Burpee. In his catalog he says that "it is not only the earliest to bloom in the open ground, but also the most desirable for forcing under glass for winter cut flowers. The dwarf habit of the plant (only two feet) renders it much more easily



FIG. 172.—Branching of the plants of the garden and winter-flowering types

grown upon benches, admits of closer planting, and from seed sown in the latter part of August blooms may be cut for the holidays, while with the taller varieties no blooms could be cut before February or March." In 1902 the firm sent out an earlier strain of this variety under the name "Gould's Extreme Early Earliest of All."



FIG. 173.—Sweet peas grown in pots

as seed sports either directly or indirectly. A further significant fact is that Blanche Ferry is a descendant of Painted Lady, which is the common name of the sweet pea described by Burmann in 1737 as a new species from Ceylon.

The known origin of the winter-flowering type of the Zvolanek and Télemly strains indicates their relation to Blanche Ferry, and this is confirmed by the fact that Watchung, Florence E. Denzer, and others are indistinguishable from varieties named above.

Mont Blanc was introduced by Ernest Benary, of Erfurt, Germany, in 1900. It is said that this variety came from Emily Henderson. Burpee, in his catalog for 1901, says that it is the exact counterpart of Earliest of All except in the color of the flowers, which are white.

Earliest Sunbeams appeared in 1904 and was described as a primrose Mont Blanc, with which it was identical except in color.

In 1904 Mr. Thomas Gould, of California, the originator of the strains of Earliest of All, found a white sport in a stock of the Reselected Earliest of All, which was identical with Earliest of All in every respect except color. Unlike Mont Blanc, it had a black seed. This variety, Earliest White, was introduced in 1906 by Burpee, who strongly recommended it for forcing.

Thus we had in 1906 a group of early-flowering varieties represented by Blanche Ferry, Extra Early Blanche Ferry, Earliest of All, Extreme Early Earliest of All, Mont Blanc, Earliest Sunbeams, and Earliest White, which were of distinct habit from the usual garden types and which were sometimes forced under glass. These varieties were all descendants of Blanche Ferry, from which they originated

CULTURE UNDER GLASS

The house

Winter-flowering sweet peas grow six to ten or more feet high, and if they are to attain their full development a house with this amount of headroom is required. They also need all the light they can get, as the lighter the house, the more blooms there will be. Low or dark houses are not practicable.

Solid beds.—Sweet peas may be grown on benches, but solid beds are better since the plants require a deep, moist, cool soil. The roots should be given an opportunity to go down, by properly preparing the soil two or three feet in depth. With this depth of prepared soil it is imperative that the beds have good drainage, for oversaturation is detrimental to the young plants and any tendency to keep them in this state brings on sourness, which is fatal to sweet peas. Having the beds raised at least one foot above the walks will assist in keeping the soil uniformly sweet.

When planning to grow sweet peas under glass in solid beds, the house should be cleared as early as possible. Trench the soil two feet deep. If the beds have been manured annually, the bottom soil may be brought to the surface. In new houses, in case the beds are to be raised a foot, trench the soil eighteen to twenty-four inches deep if it is a good loam; if not, remove the soil and fill the beds with good soil. This gives an additional foot of loosened soil when the bed is full, but it is needed for additional drainage. In turning this original soil in a new bed, apply a heavy coat of good decomposed cow manure in the trench. Then spread on top a three-inch coat of manure and fill in with the prepared soil. In the old beds, put a three-inch layer of manure in the bottom of the trench and another about a foot below the top. The soil should remain thus until about the time for sowing; if a month or more intervenes, it is much better. At this time fork over the top layer one foot deep, which mixes the upper layer of manure with the surface soil.

Benches.—While good crops of sweet peas may be grown on benches, yet they require more care than when in beds. The sweet pea is frequently grown as a crop to succeed chrysanthemums, particularly by those florists who do not devote a great amount of space to pot plants. In order to have flowers for Christmas, the early chrysanthemums should be cleared from the house by October 20 and the space filled with good sweet pea plants transplanted from pots.

The seed

Only good, strong-germinating seed should be used, and the best for the purpose is the outdoor-grown stock of this type. If the grower raises his own seed for the earliest planting, that from outdoor fall-sown plants

is preferable; otherwise it will always pay to purchase stock from the specialists who produce seed under California conditions. Seed procured near the end of the season from exhausted greenhouse-grown plants often germinates poorly or produces weak plants. Sometimes, even though the seedlings start off fairly well, they later exhibit constitutional weakness.

If the steam pipes are on the side walls, plant the first row of seeds five feet from them. If the rows run east and west, plant the others five feet apart; if the rows run north and south, space them three feet apart. Make the drills one or one and a half inch deep, and drop the seeds one to one and a half inch apart. Cover the depth of the drill, and keep the surface level.

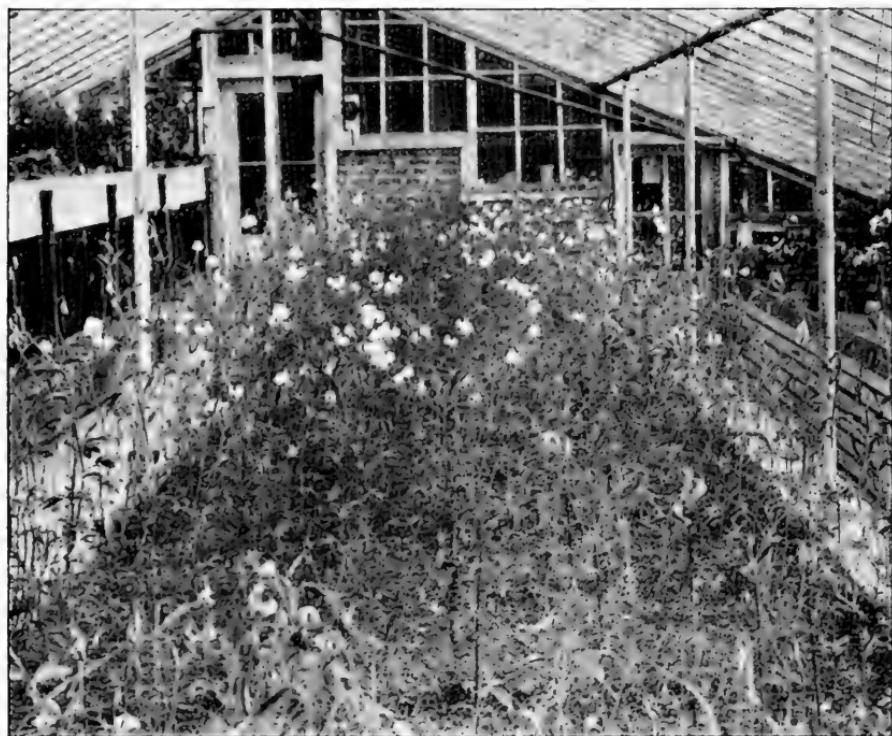
Sowing

The winter-flowering varieties may be sown in the beds or benches where they are to stand, or they may be sown in pots. The former method gives the better results.* A day or two before planting, the beds should be thoroughly saturated with water; William Sim, the most extensive grower, advises a strong dose of liquid manure instead. As soon as the top has dried off so as to be in a good friable condition, plant the seed. The varieties with white seeds are best sown in sand; or, as Mr. Zvolanek advises, soak the seeds for ten hours in water, scatter in flats, and allow to remain for two days or until the seeds begin to swell. The seeds may then be sown in moderately dry soil in the same way as other varieties. The white-seeded varieties, more than any others, require careful attention in the watering.

Watering

If the soil has been saturated before planting, no more water should be applied for perhaps a week, or only when the soil is no longer moist three inches below the surface. When a thorough watering is not applied first, and the seed is sown and watered in, as a rule not enough water is given to saturate the soil very deep. The result is that the plant confines its root area to this shallow moist layer and does not root deeply. It therefore suffers from extremes, and any lack of moisture is followed by a check from which it never recovers. On the other hand, if the preparatory watering is given and water withheld until there is need of it, the roots strike downward into moist and cooler soil where they overcome, as far as possible, the effects of the hot days. The sweet pea must be kept growing steadily from the day the seed is sown. When water is needed, do not apply near the plants, but between the rows, where it should be given liberally. This treatment is especially important with

* One large grower sows the seed in flats or benches, in sand, transplanting the seedlings as soon as the upper side root is one half inch long. Two plants are placed in each two-and-a-half-inch pot. These are planted, four pots to one foot of row, in the greenhouse.



The house of winter-flowering sweet peas, February, 1910

the early plantings. One reason why water should not be applied too near the plants is that they are especially subject to damping off. This trouble becomes more prevalent in October and November, when there are more cloudy days, cool nights, and like conditions. Because of this, no soil should be heaped around the stem.

Time to plant

When a good crop of sweet peas is desired for Christmas, the seed should be sown the 20th of August. When sown September 1 the plants will flower in January; when sown September 15 the main crop will be in February; and when sown in October the crop will be ready in March. November sowings flower in the latter part of March; December sowings in April; January sowings in April and May; February sowings from May 1 on; and a March sowing in May or June. This gives the time when a reasonable crop can be expected, although flowers will be cut, especially with certain varieties, in a shorter interval than that given.

Some of the varieties in the tests at this station, sown October 20 and benched December 20, gave flowers during the last week in January, but not freely until about March. Some sown November 20 and benched December 20 began flowering in February and gave an abundance in March. Seed sown in beds September 24 this year gave flowers on Thanksgiving Day, although during the whole month of November there was not one clear day and there were only two partly clear days.

Supports

As soon as the peas are up, a support must be furnished. This may consist of string, wire and string, or wire netting. When string is used it is stretched lengthwise on each side of the row and fastened to stakes on the purlin posts. The wire-and-string support consists of wires stretched over the row, one near the ground and another eight to ten feet above it; between these, string is stretched lengthwise every ten inches, and perpendicular strings connect the top and bottom wires.

Wire netting is condemned by commercial growers. They maintain that the vines do not cling to it, so that just as much tying is needed; and, besides, more crooked stems occur than when the vines are trained on string. At this station, however, all the methods have been tried and the wire netting has been found preferable.

Temperature

Keep the temperature in the early stage as low as possible, giving full ventilation, day and night, as late as possible without freezing. The

cooler the plants can be kept while growing, the stronger and healthier they will be. In this way the natural outdoor spring conditions are approximated.

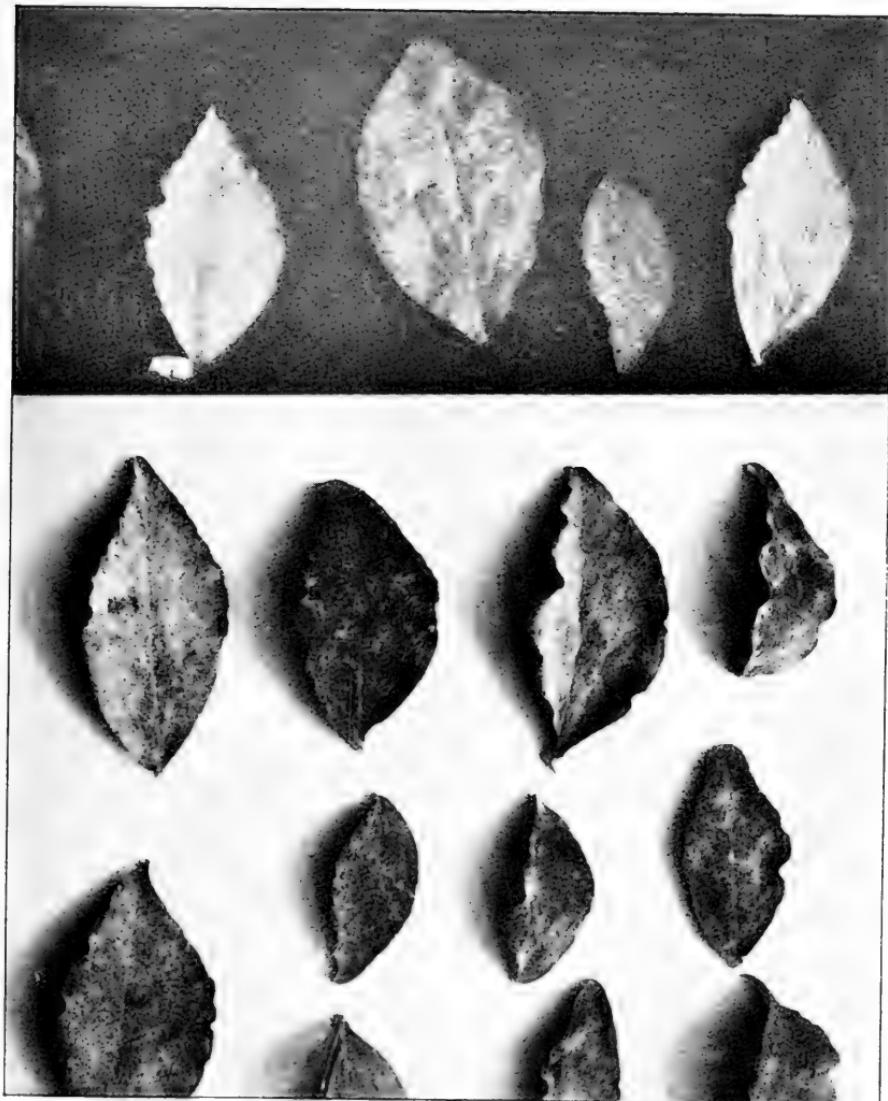
When the flower buds can be felt in the tips of the growing stems, the temperature should be raised 1° a night until 50° is attained, which is the proper temperature during December, January, and February. From about the end of February on, a night temperature of 48° is better. On bright days a rise of 10° or even 15° may be given. On cloudy days 55° is high enough, for higher temperatures promote soft, succulent growth that wilts when the sun comes out. Plenty of ventilation should be provided at every opportunity, as this, with careful regulation of temperature, causes a firm growth.

Insects

Sweet peas are especially subject to attack by the red spider, but unless the plants are too near heated pipes such attacks do not often occur except in the fall months. The careful use of water after the plants have attained a height of a few inches will eradicate this pest.

The common enemy of greenhouse plants, the green fly, attacks sweet peas from the time they appear above ground. These insects can soon destroy the young plants, as well as weaken the plants at any stage. Fumigation should be attended to carefully, the grower choosing cool nights or performing the work early in the morning; the chief object being to clear the plants thoroughly by regular and persistent fumigation so that they will not need fumigating when in bloom, as the odor is objectionable and injures the sale of the flowers. Tobacco also bleaches the flowers of some varieties. In the spring, when spraying plants with nicotine for green fly or for thrips, use this insecticide carefully as sweet peas are subject to injury from it. A nicotine preparation containing forty per cent of the constituent nicotine, used at the rate of two teaspoonfuls to each gallon of water, will kill the thrips that are hit by the spray.

Climbing cutworms and snails, if present in greenhouses, will destroy sweet peas. The former insects, which attack also carnations, violets, and chrysanthemums under glass, are combated by using compost that has not been covered by a rank growth of weeds and grass. When their work is noticed a search should be made for the worms under any mulch or lumps of earth on the bench, where they are coiled up during the day. They may also be picked from the plants at night while feeding. The use of poisoned baits is also recommended; among the best of these is the bran-arsenic mash, made by mixing one part white arsenic, one part sugar, and six parts bran, with sufficient water to form a mash. This may be placed among the plants. Snails can be controlled by the application of lime and soot to the surface of the beds or benches.



The sweet pea mildew

Diseases

The damping-off fungus has already been mentioned as causing the loss of young plants. Sometimes plants are seen with white- or yellow-streaked foliage. From experience at this station it appears that such a condition may follow the use of any soil that is not sweet. An instance occurred when a mold growing over the ashes of a bench entered the bottom of some pots of peas, causing the soil to become stale and musty. All the plants where this occurred showed streaked foliage later. The disease is undoubtedly physiological in its nature and is thought by practical growers to occur sometimes from the use of too much or too fresh manure on young plants.

The dropping of flower buds is often a cause of complaint from growers. The first flower buds frequently do not set on vigorous, thrifty plants. Usually this condition soon disappears, but sometimes it is necessary to keep the plants a little dry and to abstain from the use of fertilizers until the plants are blooming freely. The loss of the buds will follow a sudden fall in the temperature or will result from overwatering. Another cause is, growing the plants in too cool an atmosphere. Plants that are grown in the proper temperature, with careful attention to watering, ventilation, and feeding, do not fail to give an abundance of flowers.

Mildew sometimes attacks sweet peas during the autumn, unless the temperature and ventilation receive attention. It has been found at this station that mildew yields readily to applications of sulfur to the pipes, and to the use of flour of sulfur dusted on the infected leaves. As soon as the fires are started in the fall, some sulfur should be applied to the pipes as a preventive. This should be used judiciously, however, for an interesting case came under observation at this station during the past winter, of the danger of using sulfur too strong. An application had been made, and on a very cold night the pipe covered with the sulfur was turned on, the result being that every flower which was well advanced or open was scorched so that most of the flowers had to be thrown away. No injury to the plants occurred.

TESTS OF WINTER-FLOWERING SWEET PEAS AT CORNELL UNIVERSITY

The origin of the various groups of winter-flowering varieties of sweet peas has been traced above, and the varieties of the garden type formerly grown under glass have been noted.

All obtainable varieties of the winter-flowering type have been grown two seasons under glass, and also out of doors during the past summer.

From Anton C. Zvolanek, Bound Brook, N. J., were received original winter-flowering sweet pea seeds of the following thirty-one varieties:

Blue Bird, Christmas Captain, Christmas Pink, Enchantress, Florence E. Denzer, Governor Fort, Greenbrook, Jack Hunter, Le Marquis, Meteor, Miss Helen M. Gould, Miss Josie Reilly, Mrs. C. H. Totty, Mrs. F. J. Dolansky, Mrs. J. F. Hannan, Mrs. George Lewis, Mrs. A. Wallace, Mrs. E. Wild, Mrs. William Sim, Mrs. W. W. Smalley, Niger, Pink Beauty, Red Seedling, Variegated, Watchung, William J. Stewart, and Wallacea; in 1911, Zvolanek's Blue, Orange, Pink, and J. K. Allen.

From C. Engelmann, Saffron Walden, Essex, England, came the following six varieties of *Lathyrus odoratus Praecox*: White, Mauve, Deep Mauve, Carmine, Maroon, and Blue.

There were obtained from F. Fleetwood Paul, Botley, Hants, England, the following four varieties of "Paul's Improved Télemly Strain, or Christmas-Flowering Sweet Peas": Rose and Carmine, Mauve, Two Shades Pink, and White.

From the Reverend E. Arkwright, Télemly, Alger-Mustapha, Algeria, Africa, were received the following eighteen named varieties of Télemly sweet peas: Apple Blossom, Indigo Blue, Blue and Red, Cerise, Lavender and Pink, Lavender; Maroon, Mauve, Pale Pink, Pink, Pale Primrose, Purple, Purple and Maroon, Red Bicolor, Red Self, Red and White, Violet, and White.

Canary, Flamingo, Christmas White, Snowbird, and Mrs. A. C. Zvolanek, also seeds of Mont Blanc, Earliest Sunbeams, Earliest White, Earliest of All, Reselected Earliest of All, Emily Henderson, and Blanche Ferry, were received from A. T. Boddington, New York. The same firm forwarded packets of their stock of Florence E. Denzer, Mrs. W. W. Smalley, Mrs. A. Wallace, Mrs. William Sim, Mrs. E. Wild, Mrs. George Lewis, Christmas Pink, and Watchung, which were identical with the varieties of the same name in the Zvolanek collection.

The Bryson Ayres Company, Independence, Mo., sent the following varieties: Christmas Primrose, Mrs. A. Wallace, Ayres' Thanksgiving White, Christmas Blue, Mrs. C. H. Totty, Christmas Pink, Mrs. William Sim.

Altogether, seventy-three varieties, from five sources in America, Algeria, and England, have been tested at this station. This probably represents the largest collection of the forcing type ever brought together. In all these trials there has never been discovered the slightest reason for believing that any variety was a hybrid between some species of the vetch and *Lathyrus odoratus*. Side by side with the varieties of winter-flowering sweet peas the following species of vetch have been grown and studied at all stages of development: *Vicia sativa*, *V. villosa*, *V. gerardii*, and *V. fulgens*.

The winter-flowering *Lathyrus odoratus Praecox* and the Télemly strains all have the same habit of growth and early-flowering propensity, with



The winter-flowering sweet peas, May 3, 1911. After blooming for five months





The Spencer sweet peas, May 4, 1911. A few days after beginning to bloom

the exception of Paul's Télemly Mauve, which is distinct from Arkwright's Télemly Mauve and which belongs to the outdoor type since it exhibits similar characteristics of bushy growth and is late-flowering. This variety, planted at the same time as the other varieties from Mr. Paul, produced flowers eight to nine weeks later; the second year it gave flowers seventeen to eighteen weeks later.

The Télemly varieties from Arkwright show by the form of their flowers that they have been derived from Blanche Ferry. The latter, when sown in August, does not flower much in winter, although it has much the same character of growth.

The varieties Florence E. Denzer and Mont Blanc, also Earliest White, Watchung, and Snowbird, and Christmas Pink, Earliest of All, Reselected Earliest of All, and Blanche Ferry, have flowers that are identical and the three last named come into bloom at the same time. The open-flowered varieties from Zvolanek and Boddington are earlier than the hooded varieties and are also less vigorous growers.

NUMBER OF DAYS REQUIRED TO BRING INTO BLOOM

Variety	Planted in pots October 22 (1909- 1910)	Planted in open ground (1910)	Planted in beds Septem- ber 24 (1910- 1911)
Earliest White.....	71	68	60
Earliest of All.....	71	68	63
Watchung.....	71	68	63
Snowbird.....	71	68	66
Reselected Earliest of All.....	.....	68	66
Blanche Ferry.....	.....	68	66
Earliest Sunbeams.....	96	74	81
Two Shades Pink.....	92	.....	85
Blue Bird.....	99	74	86
Greenbrook.....	104	74	87
Christmas Pink.....	99	74	87
Mont Blanc.....	99	74	88
Canary.....	112	76	88
Télemly Pale Primrose.....	93	.....	88
Christmas Captain.....	105	75	88
Variegated.....	97	75	88
William J. Stewart.....	101	76	88
Télemly Apple Blossom.....	93	.....	89
Télemly Maroon.....	95	.....	90
Le Marquis.....	101	76	90
Christmas Meteor.....	101	76	90
Mrs. Zvolanek.....	.....	.....	90
Télemly Pink.....	95	.....	93
Mrs. J. F. Hannan.....	97	79	93
Helen M. Gould.....	98	74	93
Télemly Indigo Blue.....	91	.....	93

NUMBER OF DAYS REQUIRED TO BRING INTO BLOOM—(Continued)

Variety	Planted in pots October 22 (1909— 1910)	Planted in open ground (1910)	Planted in beds Septem- ber 24 (1910— 1911)
Télemly Blue and Red.....	91	.....	93
Christmas Enchantress.....	97	77	94
Mrs. C. H. Totty.....	106	76	94
Mrs. A. Wallace.....	106	77	94
Paul's Rose and Carmine.....	104	.....	94
Christmas White.....	99	.....	94
Wallacea.....	101	77	94
Flamingo.....	95	74	95
Arkwright's Télemly White.....	94	.....	95
Télemly Purple.....	93	.....	95
Florence E. Denzer.....	105	74	96
Niger.....	104	78	95
Télemly Red and White.....	92	.....	96
Télemly Pale Pink.....	92	.....	96
Pink Beauty.....	101	74	96
Red Seedling.....	103	74	96
Télemly Violet.....	98	.....	98
Télemly Cerise.....	98	.....	102
Jack Hunter.....	97	74	101
Miss Josie Reilly.....	99	79	101
Praecox White.....	105	.....	101
Mrs. F. J. Dolansky.....	101	77	102
Mrs. William Sim.....	103	76	102
Mrs. W. W. Smalley.....	102	78	102
Télemly Red Self.....	98	.....	102
Télemly Lavender and Pink.....	93	.....	102
Télemly Mauve (Arkwright).....	95	.....	107
Télemly Lavender.....	101	.....	107
Governor Fort.....	99	78	109
Praecox Carmine.....	111	.....	110
Praecox Deep Mauve.....	109	.....	110
Mrs. E. Wild.....	109	81	112
Praecox Mauve.....	107	.....	124
Paul's Télemly Mauve.....	160	.....	218
Mrs. George Lewis.....	99	76	96
Paul's Télemly White.....	94	.....	102
<i>The garden varieties tested 1910-1911</i>			
Emily Henderson.....	81	.....	202
Henry Eckford.....	88	.....	214
King Edward VII.....	80	.....	216
Countess Spencer.....	80	.....	216
Helen Lewis.....	82	.....	214
Primrose Spencer.....	84	.....	216
White Spencer.....	84	.....	212

The plants of the garden type started September 24 with the winter-flowering type produced their first blossoms during the last week in

April, while the latter were still blooming freely after having yielded cut blooms for nearly five months, and the extra early varieties for six months.

NUMBER OF DAYS COMING INTO BLOOM CLASSIFIED ACCORDING TO GROUP TO WHICH THE VARIETIES BELONG

Variety	1909-1910	1910-1911
<i>Engelmann varieties — Lathyrus odoratus Praecox</i>		
Praecox Blue.....	111	.....
Praecox Carmine.....	111	110
Praecox Deep Mauve.....	109	110
Praecox Mauve.....	107	124
Praecox Maroon.....	109	.....
Praecox White.....	105	101
<i>Paul's Improved Télemly varieties</i>		
Two Shades Pink.....	92	85
Rose and Carmine.....	104	94
Mauve.....	160	218
White.....	94	102
<i>Arkwright's Télemly varieties</i>		
Télemly White.....	94	95
Télemly Pale Primrose.....	93	88
Télemly Apple Blossom.....	93	89
Télemly Maroon.....	95	90
Télemly Pink.....	95	93
Télemly Indigo Blue.....	91	93
Télemly Blue and Red.....	91	93
Télemly Purple.....	93	95
Télemly Red and White.....	92	96
Télemly Pale Pink.....	92	96
Télemly Violet.....	98	98
Télemly Cerise.....	98	102
Télemly Lavender and Pink.....	93	102
Télemly Mauve.....	95	107
Télemly Lavender.....	101	107
Télemly Red Self.....	98	102
Télemly Red Bicolor.....	94	.....
Télemly Purple and Maroon.....	98	.....

DESCRIPTIONS OF VARIETIES

In the following descriptions of winter-flowering sweet peas and such other kinds as are used for forcing, the varieties are classified according to the form of the standard into two groups—open and hooded. Each group is subdivided into its leading colors by the marginal divisions. The white varieties are arranged in groups according to color of the seed—white seed and black seed. The year given is that in which the variety was introduced. The *Répertoire de Couleurs* was used as the standard chart in determining the colors of the flowers.

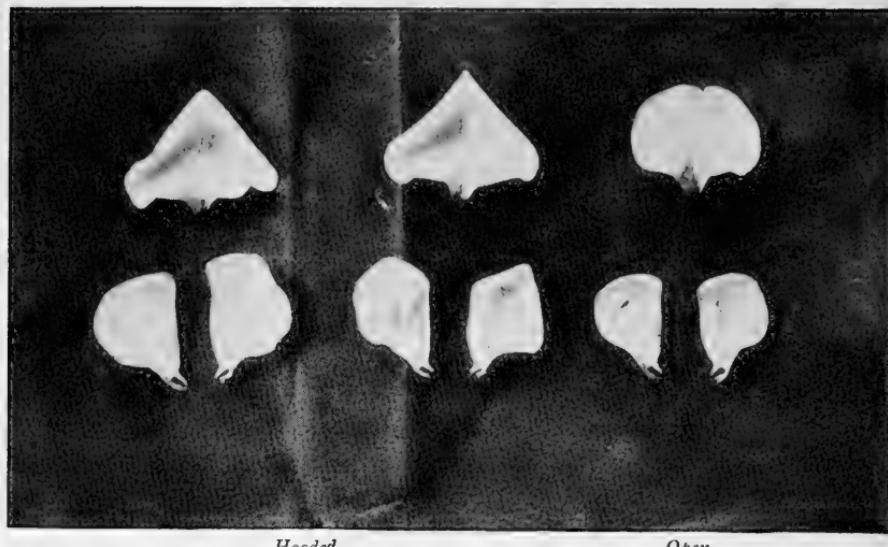


FIG. 174.—Classification according to the form of the flower

OPEN FORM
CHRISTMAS WHITE

White (White seed)

Originated by Zvolanek, 1905.

Donated by Boddington.

Description in brief—Medium size, white, open-form, notched standard, dwarf growth.

Synonym—This is Florence E. Denzer.

FLORENCE E. DENZER

Originated by Zvolanek, 1902.

Donated by Zvolanek, Boddington.

Description in brief—Medium size, pure white, open-form, notched standard, dwarf growth, medium early. Valuable for market.

Description in detail—Color snow-white 1-4 (2), the expanding flowers greenish white 1-2 (15). Open-form, flat, notched standard, long, narrow wings. Flowers two or three on stems of medium length, of good substance and fragrant. Plant dwarf, not over six feet. Seed white. Said to be a cross between Christmas Pink and Emily Henderson in 1895. Registered as Miss Florence E. Denzer, December 15, 1902.

Comparison—This variety is a month later than Watchung, Snowbird, and Earliest White. In the open it was a week later.

Synonym—Christmas White is the same variety.

MONT BLANC

Originated by Bernary, 1905. *Donated by* Boddington.
Description in brief — Medium size, pure white, open-form, notched standard, midseason, dwarf growth.
Comparison — Similar to Florence E. Denzer.

TELEMLY WHITE

Originated by — *Donated by* Paul.
Description in brief — Medium size, pure white, notched standard, mid-season variety of dwarf growth.
Remark — This variety has white seeds and germinated very poorly, giving two plants from ten seeds.
Comparison — Similar to Florence E. Denzer.

TELEMLY WHITE

Originated by Arkwright. *Donated by* Arkwright.
Description in brief — Large size, pure white, open-form, notched standard, midseason variety, of tall, vigorous growth.
Remark — This white contains a variety of hooded form similar to Dorothy Eckford.
Comparison — During both seasons this variety was distinctly larger than any other white variety.

EARLIEST WHITE

White (Black seed)
Originated by Gould. *Sent out by* Burpee, 1906. *Donated by* Boddington.
Description in brief — Medium size, pure white, notched standard, dwarf growth. Valuable because of its extreme earliness.
Description in detail — Fully open flower milk-white 2-3 (11); wings and standard have no trace of color except in the young bud. Open-form, flat, notched standard, wings long and broad. Flowers one to three on short medium stems, substance good, fragrant. An early and free bloomer. Plant dwarf, under six feet, begins to bloom when eighteen inches high. Leaflets dark green, narrow, and pointed. Seed large, round, and black.

Remark — Both seasons, under glass, this variety and its synonyms were three weeks earlier than any other variety, and in the open ground they were one week earlier than Mont Blanc.
Comparison — This variety is similar to Snowbird and Watchung.

SNOWBIRD*Originated by* —————.*Donated by* Boddington.*Description in brief* — Medium size, pure white, open-form, notched standard, dwarf growth. Valuable for early forcing.*Comparison* — Similar to Earliest White and Watchung.**WATCHUNG***Originated by* Zvolanek, 1907.*Donated by* Zvolanek, Boddington.*Description in brief* — Medium size, pure white, open-form, notched standard, dwarf growth. Valuable for early forcing.*Comparison* — Very similar to Earliest White.**CANARY****Primrose***Originated by* —————.*Donated by* Boddington.*Description in brief* — Medium size, primrose, open-form, notched standard, early variety.*Description in detail* — Color of opening standard is cream-yellow 2 (30), fades to creamy white 2 (10); wings yellowish white 3 (13), fading to creamy white 1 (10). Flower open-form, with flat, notched standard, wings long, broad, and concealing the keel. Growth not tall, under six feet.*Comparison* — Opens deeper yellow and not quite so large as Burpee's Earliest Sunbeams and Télemly Primrose. Standard erect and flat, while those of the last-named variety often reflex on the edges. Plant grew taller than other primrose varieties.**EARLIEST SUNBEAMS***Originated by* Burpee, 1904.*Donated by* Boddington.*Description in brief* — Medium size, primrose, open-form, notched standard, dwarf growth, early variety.*Description in detail* — Color yellowish white 1-2 (13), black deeper shade, wings slightly lighter. Open-form, notched standard, long, broad wings. Flowers one to three on medium stems, substance good, moderately fragrant. Early and free bloomer. Plant not tall, under six feet. Leaflets dark green, narrow, and pointed. Seed white.*Comparison* — This variety is similar to Télemly Pale Primrose, and was introduced prior to it.**TÉLEMLY PALE PRIMROSE***Originated by* Arkwright.*Donated by* Arkwright.*Description in brief* — Medium size, open-form, primrose, notched standard, early variety.*Comparison* — Similar to Earliest Sunbeams.

TÉLEMLY PINK

Pink*Originated by Arkwright.**Donated by Arkwright.**Description in brief* — Bright pink, medium size, open-form, notched standard, moderately vigorous grower, midseason.*Description in detail* — Color of the standard as it opens is bright purple-rose 2-3 (150) or Rose Neyron red 1 (119), changing to pale lilac-rose 2 (130); wings mauve-rose 1 (153). Flower open-form, notched standard, with large, long, broad wings. Stems long and strong. Fragrant. Midseason. Plant a moderate grower.*Remark* — One of the most beautiful pink varieties in the collection, but is not fixed.

ZVOLANEK'S PINK

*Originated by Zvolanek, 1910.**Donated by Zvolanek.**Description in brief* — A large, open, soft pink flower.*Description in detail* — Color of standard Rose Neyron red 1-2 (119); wings lilac-rose 1 (152) or paler. Flower large, open-form, and borne on stems of medium length and strength. Fragrance moderate. Good substance. Plant medium height, slender, but a very profuse bloomer.

MRS. W. W. SMALLEY

Cream pink*Originated by Zvolanek, 1908.**Donated by Zvolanek, Boddington.**Description in brief* — Medium size, soft pink, open-form, late variety.*Description in detail* — Color of the standard, rosy flesh 1 (134); wings pale flesh 1 (136). Flower medium size, open-form standard sometimes with a faint notch, flat; wings long and narrow, concealing the keel. Season late. Plant a moderately vigorous grower, medium height.*Comparison* — A Christmas or winter-flowering open-form Venus.*Registered with the Society of American Florists, March, 1906.*

TÉLEMLY APPLE BLOSSOM

Bicolor*Originated by Arkwright.**Donated by Arkwright.**Description in brief* — Medium size, open-form, flushed pink on light primrose standard, wings light primrose. An early variety.*Description in detail* — Color milk-white 4 (11), standard flushed with pink 4 (7), in the center with milk-white edges. Wings milk-white. Variable in color and in size. Open-form, notched standard, wings large, long, and broad. Flowers on medium long stems, fragrant. Productive. Plant dwarf, under six feet, slender growth. Leaflets narrow and pointed.

Remark — Fully one half rogues, one with a red standard and pink wings, the other an inferior variety with purple standard and blue wings.

CHRISTMAS PINK

Originated by Zvolanek, 1899. *Donated by* Zvolanek, Boddington.

Description in brief — Medium size, red and white, open-form, early variety. Very valuable market variety grown under glass.

Description in detail — Under glass, color of standard is deep cerise 4 (123), wings are lilacy white 1 (7). Open-form standard notched, wings long and broad, concealing the keel. Flowers two to three on long, strong stems. Very productive.

Remark — This variety under glass was three weeks later than Earliest of All and other varieties, and in the open ground was one week later.

Comparison — Similar in color to Blanche Ferry, Earliest of All, and others, but much superior to these varieties in every respect except in earliness.

BLANCHE FERRY

Introduced by Ferry, 1889. *Donated by* Boddington.

Description in brief — Medium size, red and white, extra early, open-form, notched standard, short stems, plant a poor grower in midwinter.

Remarks — An old forcing variety, but superseded by Christmas Pink. Not productive from November to March, and stems too short.

EARLIEST OF ALL

Originated by Gould. *Sent out by* Burpee, 1898. *Donated by* Boddington.

Description in brief — Medium size, red and white, open-form, notched standard, extra early variety.

Remark — This variety was in every respect similar to Blanche Ferry and Reselected Earliest of All.

Comparison — Similar in color to Christmas Pink and Télemly Red and White, but much earlier. Not equal to those varieties for growing under glass in midwinter.

RESELECTED EARLIEST OF ALL

Introduced by Gould. *Sent out by* Burpee, 1902. *Donated by* Burpee.

Description in brief — Medium size, red and white, open-form, notched standard, short stems, extra early, plant a weak grower under glass.

Comparison — One year of trial under glass showed that this variety was not so vigorous as, and was no earlier than, Earliest of All. In the open ground this variety came into bloom on the same day as Blanche Ferry and Earliest of All.

TÉLEMLY RED AND WHITE*Originated by* Arkwright.*Donated by* Arkwright.*Description in brief* — Medium size, open-form, red and white, notched standard, productive, midseason, very vigorous variety.*Description in detail* — Flower open-form, flat, notched standard, wings long and broad, concealing the keel. Flowers two to three on very long, strong stems. Very productive. Plant tall, vigorous grower, over ten feet.*Comparison* — Similar to Christmas Pink.**TÉLEMLY PALE PINK***Originated by* Arkwright.*Donated by* Arkwright.*Description in brief* — Medium size, pink standard and primrose wings, open-form, strong grower.*Description in detail* — Color of standard mauve rose 1 (153); wings lilacy white 3 (7). Flower open-form, notched standard, medium size, wings long and broad, concealing the keel. Flowers medium size, two and three on long, strong stems, fragrant. Midseason. Plant vigorous, tall, over eight feet. Leaflets narrow, pointed, and very dark green.*Comparison* — Superior to Télemly Apple Blossom, as it has larger flowers, is a stronger grower, and is a pure stock. Is distinct from that variety, however.**CHRISTMAS METEOR****Crimson and Scarlet***Originated by* Zvolanek, 1907.*Donated by* Zvolanek.*Description in brief* — Medium size, red, open-form, notched standard, midseason, dwarf grower.*Description in detail* — Color of standard crimson-red 1 (114), wings rosy magenta 1 (169) changing to magenta 2 (182). Flowers open-form, medium size, short stems. Standard notched at the top and with narrow base; wings long and broad, hooded, concealing the keel. Productive. Continuous bloomer. Midseason. Plant moderately tall grower, six feet. Under glass was a fixed variety.*Comparison* — Distinct from Flamingo. Télemly Red Bicolor has a similar flower, but is later. Meteor is winter-flowering Ignea. In the open ground the flower blackens as does that variety, and the same rogue occurs in it.*Registered with the Society of American Florists, February, 1906.***TÉLEMLY RED SELF***Originated by* Arkwright.*Donated by* Arkwright.*Description in brief* — Medium size, red, open-form, notched standard, late.

Comparison -- Similar to Christmas Meteor, but in the experiments at this station it was later-flowering.

TÉLEMLY TWO SHADES PINK

Originated by —————.

Donated by Paul.

Description — This variety was so badly mixed that it was absolutely impossible to determine the true variety. The best thing in it was a red similar to Meteor, and so the variety has been included here. There was no other with two shades of color except a few plants of Blue and Red Télemly, and one plant of Red and White Télemly. The majority of the plants produced flowers of a lilac white or faint blush pink, but of very inferior form.

TÉLEMLY RED BICOLOR

Originated by Arkwright.

Donated by Arkwright.

Description in brief — Medium size, red bicolor, open-form, notched standard.

Description in detail — See Télemly Rose and Carmine.

TÉLEMLY ROSE AND CARMINE

Originated by —————.

Donated by Paul.

Description in brief — Small to medium size, red, open-form, midseason variety.

Description in detail — Standard carmine lake 2 (121), and wings rosy magenta 2 (169). Flower open-form, notched standard, wings long and narrow, hooded. Variable in size, upper flowers on the spike are noticeably smaller. Stems long. Midseason.

Comparison — This is similar to Arkwright's Télemly Red Bicolor.

CHRISTMAS RED

Rose and Carmine

Originated by —————.

Remark — Mr. William Sim (in Horticulture, Vol. VII, No. 19, May 9, 1908, p. 628) says that this variety is identical with Flamingo.

FLAMINGO

Originated by —————.

Donated by Boddington.

Description in brief — Medium size, red, open-form, midseason variety of short growth.

Description in detail — Color crimson-red 1 (114), fading to 3-4 (118); wings rosy magenta 1-2 (169), changing to magenta 4 (182). Flower open-form, notched in top of standard, the edges of which reflex; wings spreading, slightly hooded at tips. Flowers likely to run below medium size. Stems short. Little or no fragrance. A productive midseason variety. Plant of short growth, under six feet, with narrow, pointed leaflets. A pure stock.

TÉLEMLY CERISE

Cerise

Originated by Arkwright.

Donated by Arkwright.

Description in brief — A medium-sized, red variety.

Description in detail — Color is far from cerise, being in these experiments a solferino red 1 (157) on the standard, wings bishop's violet 1 (189). Flower open-form, notched standard and small size. Season late. Plant a moderate grower.

Purity — Badly mixed, with one half the plants Télemly Mauve, Télemly Pale Pink, and Télemly Pink.

TÉLEMLY LAVENDER

Lavender

Originated by Arkwright.

Donated by Arkwright.

Description in brief — A medium-sized, lavender variety.

Description in detail — Color of standard heliotrope 1 (188) and of wings heliotrope 1 (198). Flowers medium size. Standard flat, notched. Season medium to late. Not a vigorous variety here.

LAVENDER AND PINK

Originated by Arkwright.

Donated by Arkwright.

Description in brief — Medium size, lavender, open-form, late variety.

Description in detail — Color of the standard lilac-rose 1 (152) fading to lilac white 1 (7), leaving the base lavender-blue; wings lavender-blue 1 (204), fading to almost white. Flowers medium size, open-form. Standard flat, notched. Wings long and broad. Season late. Plant a medium grower.

Purity — Contains Red and White, also Purple and Maroon.

TÉLEMLY MAUVE

Mauve

Originated by Arkwright.

Donated by Arkwright.

Description in brief — Medium size, mauve, open-form, late variety.

Description in detail — Color of the opening standard bright violet 4 (198), changing to heliotrope 1 (188); wings open bright violet 1 (198), change to Parma violet 1 (200). Flower open-form, faintly notched, flat standard; wings long and broad. Flowers medium size, on long stems. Fragrant. Profuse bloomer. Plant very vigorous grower, over eight feet.

Purity — Contains a hooded form, also an early-flowering, waved, blush pink.

Comparison — Can be called an open-form Mrs. Alexander Wallace. Differs from that variety in the open form, deeper violet in the opening flowers, and deeper blue of the wings.

TÉLEMLY MAROON

Maroon

Originated by Arkwright.

Donated by Arkwright.

Description in brief — Medium size, maroon, open-form, midseason, strong-growing variety.

Description in detail — The color is not found in the *Répertoire de Couleurs*; that of the standard is nearest 4 (172), but the wings are slightly purplish near 2 (185) and the keel is shaded bishop's violet 4 (189) on white. The effect is the color popularly called maroon. Flower open-form, notched standard, size medium. Stems long. Plant a vigorous grower.

Comparison — Distinct from Praecox Maroon.

MISS HELEN M. GOULD

Striped

Originated by Zvolanek, 1908.

Donated by Zvolanek.

Description in brief — Medium size, red stripe, open-form, midseason, short grower.

Description in detail — Striped and flaked with lilacy white 1 (7) to pale light lilac 1 (187) on white ground. Wings creamy white 4 (10), fading to white. Flower open-form, notched standard, wings long and narrow. Flowers medium size on short to medium stems. Plant a short grower, under six feet.

Comparison — Of Earliest White type.

VARIEGATED

Originated by Zvolanek.

Donated by Zvolanek.

Description in brief — Medium size, red stripe on white, open-form, early variety.

Description in detail — Standard heavily striped and flaked lilac-purple 4 (160) on white; wings fleshy white 1 (9). Flowers open-form, medium size, on short stems. Standard notched at the top, with narrow base. Plant a short grower, under six feet. Leaflets narrow, pointed, and very dark green.

Comparison — This is Mrs. Zvolanek, 1909.

MRS. ZVOLANEK

Originated by Zvolanek, 1909.

Donated by Boddington.

Description in brief — Medium size, red striped on white, open-form, early variety.

Remark — This variety was grown in 1910-1911; catalogued as a Blue Variegated.

Comparison — This variety was received under the name "Variegated" in 1909.

CHRISTMAS CAPTAIN

Violet and Purple

Originated by Zvolanek, 1907.

Donated by Zvolanek.

Description in brief — Above medium size, maroon-red standard and blue wings, open-form, early variety.

Description in detail — Color of standard plum-violet 2 (172) or vinous mauve 4 (184), with veins of darker color; wings light bluish violet 1 (202). Flower open-form, standard with notched top, reflexed edges, and narrow base, wings long and narrow, concealing the keel; size above medium, on medium long stems. Fragrant, very productive and early. Plant a moderate grower, seven feet. Leaflets narrow and pointed.

Purity — Stock is unfixed. In open ground it broke up into six varieties. Said to be impossible to fix.

TÉLEMLY BLUE AND RED

Originated by Arkwright.

Donated by Arkwright.

Description in brief — Medium size or slightly larger, maroon-red standard and blue wings, open-form, midseason variety.

Description in detail — Opening standard deep carmine-violet 3 (174), veins and midrib rich pansy-violet 4 (191). The standard changes to a deep purple 1 (184). The wings open violet-purple 1 (192), veins 4 (192), change to light bluish violet 1 (202). Flowers open-form, medium size or slightly larger. Standard slightly notched, flat; wings long, hooded, concealing the keel.

Comparison — Somewhat on the order of Christmas Captain, but has brighter standards and is a fixed strain.

TÉLEMLY PURPLE AND MAROON

Originated by Arkwright.

Donated by Arkwright.

Description in brief—Medium size, maroon-red with dark blue wings, open-form, early variety.

Description in detail—Color of the standard is nearest to plum-violet 3 (172), but is brighter; wings near 4 (194), or bluer.

Comparison—The standard is similar in color to the standard of Blue and Red Télemly, but the wings are dark blue, instead of light blue as in that variety.

HOODED FORM

MRS. GEORGE LEWIS

White (White seed)

Originated by Zvolanek, 1908.

Donated by Zvolanek, Boddington.

Description in brief—Medium to large, pure white, slightly hooded, moderate grower.



FIG. 175.—*The white-flowering sweet pea, Mrs. George Lewis*

Description in detail — Color snow-white 1 (2), slightly hooded form, some flowers approaching the waved form. Standard round, no notch, wings long and narrow. Flowers one to three on medium stems, substance under glass not equal to Watchung. Very mildly and sweetly perfumed. Plant of moderate growth. Leaflets narrow and pointed. Seeds white, a large number split, and one of the most difficult kinds to germinate. Must be carefully handled.

PRAECOX WHITE

Originated by Engelmann.

Donated by Engelmann.

Description in brief — Medium-sized flower, late, white, extremely hooded, very long, strong stem, tall grower.

Description in detail — Flower extremely hooded, wings long and broad, concealing the keel. Moderately fragrant. Flowers three, medium size, on very long, strong stems. Profuse bloomer. Plant very vigorous grower, nine feet, with broad leaves. Seed white, but germinated well.

Comparison — A distinct variety.

JACK HUNTER

Primrose

Originated by Zvolanek, 1908.

Donated by Zvolanek.

Description in brief — Medium size, dwarf growth, late. Color salmon-pink, hooded.

Description in detail — Color under glass, pale pink 4 (135) wings. Much hooded so that top of standard appears pointed, wings long and broad, concealing the keel. Flowers medium size, on long stems. Substance good. Free bloomer, and fragrant. Plant short, under six feet. Leaflets narrow, pointed, and very dark green in color. Seed black.

Comparison — Appears to be Christmas-flowering Stella Morse.

Registered with the Society of American Florists, February, 1906.

MRS. F. J. DOLANSKY

Pink

Originated by Zvolanek, 1907.

Donated by Zvolanek.

Description in brief — Light pink self, extremely hooded, strong grower, late variety.

Description in detail — Color in midwinter light rose 1 (128), but later is mauve-rose 2 (153). Flower is extremely hooded, making apparent size smaller than the real. Stems of medium length. Plant tall grower, over seven feet, narrow, pointed leaflets. A true stock.

Comparison — This variety is superior to Christmas Enchantress. Is Christmas-flowering Prima Donna.

Registered with the Society of American Florists, April, 1906.

CHRISTMAS ENCHANTRESS

Originated by Zvolanek.

Donated by Zvolanek.

Description in brief — Light pink self, extremely hooded type, dwarf growth, midseason.

Description in detail — Color mauve-rose 1 (153). Extremely hooded form, giving standard a pointed appearance and reducing flower below medium size. Shows too many side notches. Free bloomer, with medium stems, fragrant. Plant dwarf grower, five feet. Leaflets narrow and pointed.

Comparison — Inferior to Mrs. F. J. Dolansky. Is Christmas-flowering Blushing Beauty.

Registered with the Society of American Florists, February, 1906.

J. K. ALLEN

Originated by Zvolanek.

Donated by Zvolanek.

Description in brief — A large pink flower.

Description in detail — Color of standard violet-rose 1-4 (154); wings lilac-white, suffused with lilac-rose 1-3 (7). Flower large, hooded, and borne on stems of medium length and strength. Fragrance moderate. Substance good. Plant medium height and moderately productive.

GOVERNOR FORT

Cream Pink

Originated by Zvolanek, 1909.

Donated by Zvolanek.

Description in brief — Salmon-pink self, hooded late.

Description in detail — Medium-sized flowers on long stems, nicely hooded. Color pale lilac-rose 4 (130). Moderately fragrant, late. Plant is strong grower but of medium height, with very dark green leaves.

Comparison — Superior to Mrs. William Sim in color and form.

Registered with the Society of American Florists as Governor John Franklin Fort, May, 1908.

MRS. WILLIAM SIM

Originated by Zvolanek, 1907.

Donated by Zvolanek.

Description in brief — Salmon-pink, hooded form, medium size, tall, vigorous grower. Late.

Description in detail — Standard bright rose 1 (128), wings crushed strawberry 1 (109) veined with Rose Neyron red 1 (119). Extremely hooded form, giving standard pointed appearance and reducing size. Stems long. Very vigorous, tall grower, over nine feet. Leaflets narrow and pointed. Stock true.

Comparison — Christmas-flowering Countess of Lathom.

Registered with the Society of American Florists, April, 1906.

RED SEEDLING

Crimson and Scarlet

Originated by Zvolanek.

Donated by Zvolanek.

Description in brief — Red, extremely hooded flowers, on long stems. A vigorous grower. Midseason.

Description in detail — Color of standard brighter than amarante red, or dull dark crimson 3-4 (168); wings rosy magenta 2 (169), changing to magenta 1 (182). Flowers are of the extremely hooded form, appearing to be of only medium size due to pointed standard, which is not notched; wings large and spreading, showing the keel rather prominently. Midseason.

MRS. E. WILD

Originated by Zvolanek.

Donated by Zvolanek.

Description in brief — Carmine-pink. Very late.

Description in detail — Standard nearly crimson-carmine 4 (159), wings on outside 1 (159) but inside much lighter. Wings very large, long, broad, and spreading, exposing the keel, and often extending beyond margin of the standard. Fragrant. Very late. Stems large and strong.

Registered with the Society of American Florists, February, 1906.

MRS. J. F. HANNAN

Rose and Carmine

Originated by Zvolanek, 1909.

Donated by Zvolanek.

Description in brief — Medium size, carmine-netted, hooded variety.

Description in detail — Color of standard Tyrian rose 2 (155); wings violet rose 3 (154). In summer the color is solferino red 1 (157). Flowers on long, strong stems, fragrant, midseason, profuse bloomer. Plant a very strong, vigorous grower, making a dense, heavy growth, over nine feet. Leaflets narrow and pointed. Wings long, broad and concealing the keel.

Parentage — Seedling from Mrs. William Sim and Mrs. E. Wild.

Synonym — Marian Hannan.

Registered with the Society of American Florists, April 21, 1906.

MARIAN HANNAN

Originated by Zvolanek, 1908.

Synonym—Mrs. J. F. Hannan, 1909.

PINK BEAUTY

Originated by Zvolanek, 1909.

Donated by Zvolanek.

Description in brief—“Dark pink self,” hooded, midseason.

Description in detail—Color of standard Tyrian rose 2 (155), wings violet rose 3 (154). Standard hooded, round, broad base; wings long, broad, hooded, and concealing the keel. Flowers on very long, strong stems. Productive. Fragrant. Plant very strong grower, above eight feet. Leaflets narrow, pointed.

Comparison—This year it does not differ from Mrs. J. F. Hannan. In April, 1910, the latter variety contained more of a salmon tint.

PRAECOX CARMINE

Originated by Engelmann.

Donated by Engelmann.

Description in brief—Carmine-netted, hooded, late variety.



FIG. 176.—*Praecox Carmine*

Description in detail — Color of standard crimson-carmine, 3 (159) on the front and 4 (159) on the back. Sometimes a solid color, sometimes the spaces between the netting are lighter. Wings are almost pure mauve 2 (180). With age the flower changes, the standard losing its crimson, becoming magenta, while the wings become a sickly purple hue. The standard is hooded and the wings are large and broad. The flower is medium to large, on long stems. Fragrant. Productive. Plant tall, vigorous grower.

Comparison — Distinctly a deeper crimson than Mrs. Hannan or Pink Beauty.

CHRISTMAS COMTES

Lavender

Originated by Zvolanek.

Description in detail — When registered, described as "Clear lavender, average three flowers on a stem, plant five feet high, stems long. Improved Christmas and New Countess."

Comparison — "Lavender, similar to Countess of Radnor but much larger." — Florists' Exchange 22 (1906), p. 97.

Registered with the Society of American Florists, December, 1901.

TÉLEMLY MAUVE

Originated by —

Donated by Paul.

Description in brief — A light lavender, hooded variety.

Description in detail — Color of opening standard is bishop's violet 1 (189), changing to lobelia blue 1 (205); wings open bright violet 4 (198), changing to ageratum blue 1 (201).

Comparison — Similar to Countess of Radnor.

Remark — This variety is not of the winter-flowering type, but is an outdoor variety which when sown in September or October does not flower until April.

PRAECOX MAUVE

Originated by Engelmann.

Donated by Engelmann.

Description in brief — Lavender, hooded, very late.

Description in detail — Color of flower heliotrope 1 (188), changing to bright violet 2 (198). Flower medium size. Plant vigorous and productive.

Comparison — Distinct from Mrs. C. H. Totty because it has very much less violet in the opening flower and becomes a truer lavender.

MRS. CHARLES H. TOTTY

Originated by Zvolanek, 1907.

Donated by Zvolanek.

Description in brief — Lavender, hooded, midseason.

Description in detail — Color of the opening standard is bright violet 1 (198), and wings ageratum blue 1 (201); changes to a light lavender-blue, much lighter than 1 (204), and wings fade to Parma violet 1 (200), with white edges. In midsummer it is more heliotrope as it opens. Flowers hooded, occasionally with side notches. Stems long and strong. Fragrant. Plant a tall, vigorous grower, over nine feet.

Comparison — A Christmas-flowering Lady Grisel Hamilton.

GREENBROOK

Mauve

Originated by Zvolanek, 1908.

Donated by Zvolanek.

Description in brief — Lavender blush on white ground.

Description in detail — Color, standard shaded in center with bright violet 1 (198) on white (2) ground; wings are white (2). Flowers slightly hooded, medium-sized on long stems; fragrant. Productive, early.

Registered with the Society of American Florists, May, 1908.

PRAECOX DEEP MAUVE

Originated by Engelmann.

Donated by Engelmann.

Description in brief — Deep mauve, extremely hooded, very late.



FIG. 177.—*Praecox Deep Mauve*

Description in detail — Color of standard is violet mauve 1 (195), changing to bright violet 1 (198) with edges bluish lilac 1 (183); wings open heliotrope 1-2 (188), becoming almost lobelia blue 1 (205). Flower extremely hooded, large-sized, on long stems. Plant tall, strong, vigorous grower, over nine feet; leaves broad and pointed.

Comparison — Distinct.

MISS JOSIE REILLY

Originated by Zvolanek, 1907.

Donated by Zvolanek.

Description in brief — Lilac, with lavender wings.

Description in detail — Color of standard violet-rose 1-2 (154), fading to pale lilac-rose 1 (178) with paler edges; wings lighter than ageratum blue 1 (200). Flower of open form, trace of notch at the top of the standard, wings long, broad, and concealing the keel. Flowers medium-sized, on moderately long stems, late. Plant is a moderate grower, under six feet.

Registered with the Society of American Florists, April 21, 1906.

MRS. ALEXANDER WALLACE

Originated by Zvolanek, 1907.

Donated by Zvolanek.

Description in brief — Lavender, hooded, medium-sized flower, and a vigorous grower. Midseason.

Description in detail — Standard opens bishop's violet 1 (189), changes to ageratum blue 1 (201). Wings open heliotrope 1 (188) and change to Parma violet 4 (200). Flower extremely hooded, making a pointed standard; wings hooded, concealing the keel. Fragrant. Free bloomer. Stems long. Midseason.

Comparison — Same color as Wallacea.

Registered with the Society of American Florists, February, 1906.

WALLACEA

Originated by Zvolanek, 1909.

Donated by Zvolanek.

Description in brief — Lavender, midseason.

Comparison — This is a better strain of Mrs. Alexander Wallace.

PRAECOX MAROON

(*Lathyrus odoratus Praecox*)

Maroon

Originated by Engelmann.

Donated by Engelmann.

Description in detail — Color is not found in *Répertoire de Couleurs*, but that of the standard is nearest 4 (172), while wings are more purplish, being nearest 4 (185); keel shaded bishop's violet 4 (189). Flowers of extremely hooded form, above medium size, on very long stems. Plant very vigorous grower, one of the tallest in the collection, over ten feet.

Comparison — Distinct from Télemy Maroon.

Remark — Contained Praecox Carmine as a rogue.

NIGER

Violet or Purple

Originated by Zvolanek.

Donated by Zvolanek.

Description in brief — Deep, rich blue, hooded, medium size, and tall, vigorous grower. Midseason.

Description in detail — Color of standard rich pansy-violet 4 (191), wings bright violet-purple 3 (190), changing to violet-purple 1 (192). Standard without notch, wings short and broad. Flowers medium-sized, very slightly hooded, on very long stems. Productive. Plant tall, vigorous grower.

Comparison — Distinct from other blues.

Remark — Stock is mixed with Mrs. E. Wild.

PRAECOX BLUE

Originated by Engelmann.

Donated by Engelmann.

Description in brief — A blue-self, medium-sized, hooded variety.

Description in detail — See William J. Stewart.

Comparison — Similar to William J. Stewart.

WILLIAM J. STEWART

Originated by Zvolanek, 1907.

Donated by Zvolanek.

Description in brief — Blue self, hooded, medium size. Productive. Early.

Description in detail — Color of the standard as it opens is a purple-violet 2 (192), changing to bluish violet 4 (199); wings are brighter than 4 (190), changing to light bluish violet 1 (202). Standard sometimes notched on the sides, wings long, overlapping at tips, concealing the keel. Plant very vigorous, tall grower, ten feet.

Comparison — A Christmas-flowering Imperial Blue.

Registered with the Society of American Florists as Secretary William J. Stewart, March, 1906.

TÉLEMLY VIOLET

Originated by Arkwright.

Donated by Arkwright.

Description in brief — Blue self, medium size. Early.

Description in detail — Color of standard purple-violet 3 (192), changing to bluish violet 4 (199); wings light bluish violet 4 (202), changing to 1 (202). Standard hooded.

Comparison — Similar to William J. Stewart.

TÉLEMLY PURPLE

*Originated by Arkwright.**Donated by Arkwright.**Description in brief* — Purple, hooded, open-form, medium size, mid-season.*Description in detail* — Color of standard purple 4 (185); wings bright violet-purple 1 (190), changing to bluish violet. Flower with a round standard and long, broad wings. Fragrant. Stems long. Profuse bloomer. Plant tall, vigorous grower, over eight feet.

BLUE BIRD

Blue*Originated by Zvolanek, 1910.**Donated by Zvolanek.**Description in brief* — A blue self, hooded, large. Early.*Description in detail* — Color of the standard light bluish violet 3 (202), with lilac lower edges; wings light bluish violet, without trace of lilac. Flower often opens with considerable violet. Extremely hooded, large-sized, on fairly long stems. Plant a moderate grower, over six feet.*Registered with the Society of American Florists, May, 1908.*

LE MARQUIS

*Originated by Zvolanek, 1907.**Donated by Zvolanek.**Description in brief* — Slightly hooded, indigo-blue color, medium size, strong grower. Midseason.*Description in detail* — Color of standard violet purple 2 (192); wings light bluish violet 3 (202). Slightly hooded, without notch. Flower medium-sized, on long stems. Plant a tall, strong grower, eight feet.*Comparison* — Télemly Indigo Blue is similar. Is Christmas-flowering Navy Blue.*Registered with the Society of American Florists, February, 1907.*

TÉLEMLY INDIGO BLUE

*Originated by Arkwright.**Donated by Arkwright.**Description in brief* — Slightly hooded, medium size, dark blue flower.*Description in detail* — Color of standard violet-purple 1 (192) at the base, shading to 4 (192) at the edge; wings darker than light bluish violet 4 (202).*Comparison* — Similar to Le Marquis.

ZVOLANEK'S BLUE

*Originated by Zvolanek, 1910.**Donated by Zvolanek.**Description in brief* — A large, hooded, clear blue flower.

Description in detail — Color of standard light bluish violet 1-2 (202); wings lavender-blue 1 (204); both veined with darker color. Flower large and hooded. Stem of medium length and strength. Fragrance moderate. Keeping quality very good. Plant of medium height and slender growth, and inclined to be a shy bloomer.

ZVOLANEK'S ORANGE

Orange

Originated by Zvolanek, 1910.

Description in brief — A medium-sized salmon-pink flower.

Description in detail — Color of standard salmon-pink (1) 126; wings light lilac-purple 1 (160), flushed salmon-pink. The wings and standard veined with darker color. Flower medium-sized and hooded. Stem medium length and strength. Has little or no fragrance. A good keeper. Plant medium height, slender, and a moderate bloomer.

Comparison — "This can be represented as winter-flowering Miss Wilmott." — Zvolanek's Catalog, 1910.

LIST OF ADDITIONAL VARIETIES

The following variety names are found in sweet pea lists or have been published:

ANGELINO

Originated by —

Description in brief — "Self pink." — Vaughan's Book for Florists, July, 1910.

Comparison — This variety as seen at Mr. Sim's place is the variety Earliest of All.

HELEN KELLER

Originated by Zvolanek, 1909.

Description in brief — "White and pink variegated." — Zvolanek's Catalog, 1909, p. 8.

MARION STANIFORD

Originated by Zvolanek.

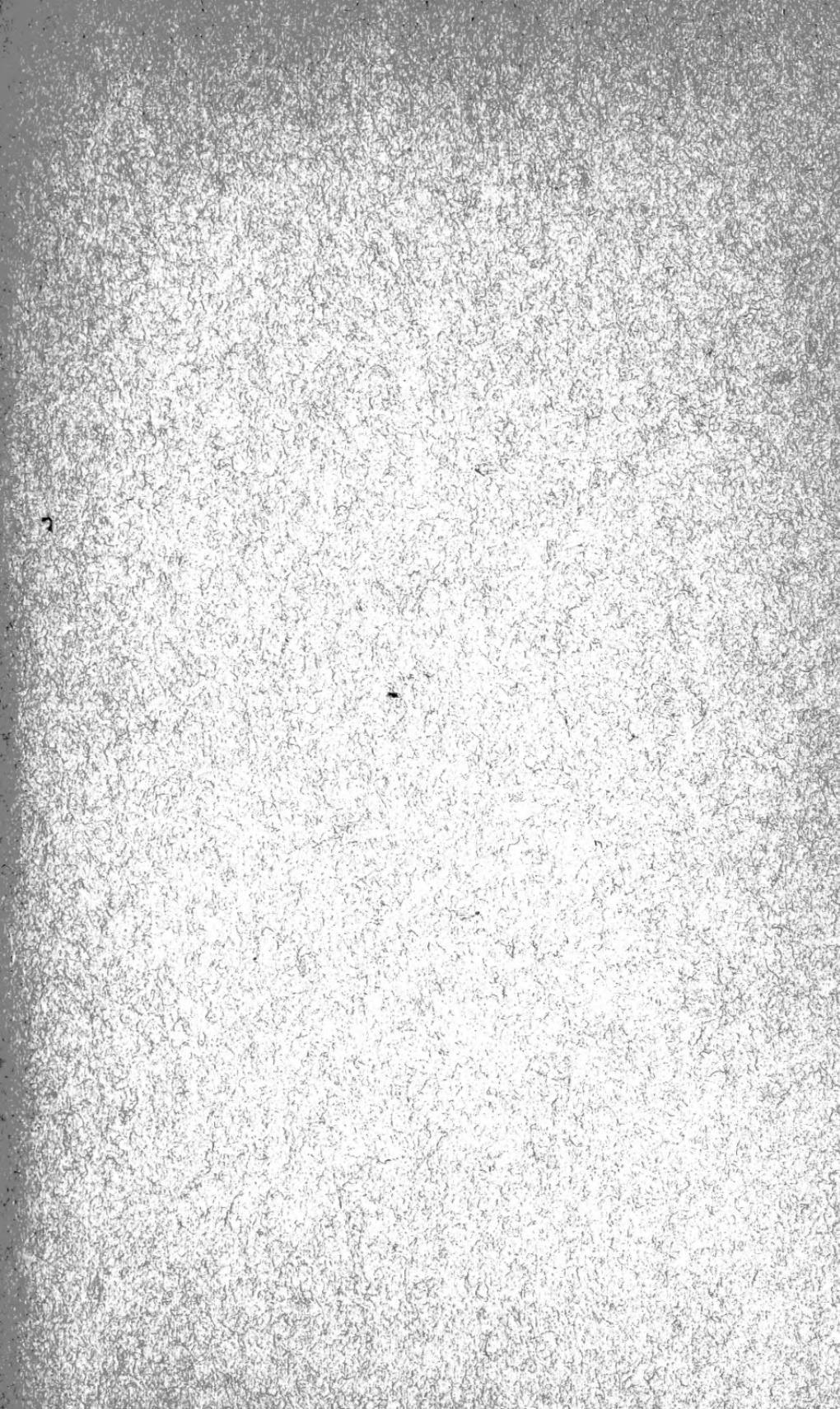
Description in brief — "Standard maroon, wings blue. Seedling from Christmas Captain x No. 93. Registered with the Society of American Florists, April 21, 1906."

SNOW QUEEN

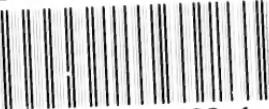
Originated by Zvolanek.

Introduced by Zvolanek, 1909.

Description in brief — "Pure white. Entirely new type of sweet peas. The shape is between Countess Spencer and Unwin types; flowers just as freely as Florence E. Denzer or Mrs. George Lewis. Black-seeded." — Zvolanek's Catalog, 1909, p. 8.



LIBRARY OF CONGRESS



0 000 924 106 1